Factor and Cluster Analysis of the 1980 Census for Rhode Island

Office of Data Evaluation
Health Planning and Resources Development
Rhode Island Department of Health

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Alan B. Humphrey
University of Rhode Island

Wayne F. Velicer
University of Rhode Island

Jay S. Buechner
Rhode Island Department of Health

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Introduction

The decennial Census of Population and Housing is the primary source of sociological, demographic, and economic data describing the population of the United States. It is used in applications as diverse as the computation of population-based rates and the targeting of social programs and consumer products to their appropriate sub-populations. Access to the data has been promoted in recent years by the dissemination of census data on computer tapes and has considerably enhanced the area of research termed "factorial ecology." Jackson and Borgutta (1981) have reviewed the activity in this area and provide an excellent overview. While they point out that the primary objective of factorial ecology is to provide a rational basis for differentiation among geographic areas, there are some important secondary objectives that are met in the course of achieving the primary purpose.

The first of these secondary achievements is the development of a set of social indicators. While there are virtually thousands of variables that appear on or can be derived from the census tapes, there are subsets of variables that have broad utility and substantial descriptive power. Hence, the first objective of this study was to develop a subset of census variables that could not only be used in the work described here but also be of more general use in studying the characteristics of the population.

Secondly, even when a workable subset has been formed there will still be too many variables for easy use in describing population subgroups and in differentiating among geographic areas. It then becomes necessary to use basic factor analysis techniques to reduce this subset to a small number of new, statistically generated variables. Each of these new variables is a linear combination of several original variables and each represents a common underlying factor. These factors provide a less cumbersome and very useful basis for differentiating among geographical areas and for grouping areas with similar characteristics.

The creation of factors leads to the use of cluster analysis techniques for combining small geographic areas into groups that are homogeneous for one or more of the factors. The simplest application of cluster analysis would be to use a single factor to divide a population into subgroups based on the factor scores of their areas of residence. For example, the population could be partitioned into four economic groups that are differentiated on the basis of quartiles of the factor scores produced from a factor related to wealth, income, or socioeconomic status. Differentiating on the basis of a larger number of factors is more difficult, but produces more interesting associations among the basic geographic areas.

A simpler, more common approach to area differentiation is to employ existing politically defined geographic boundaries such as cities/towns or counties. Although this approach is expedient, it has the major deficiency that the variability for the characteristic being measured is often greater within these geographical units then between adjacent units. The technically superior approach is to combine geographical units that are below the city/town level into meaningful aggregates based on the results of the factor analysis described above. This process produces geographic groups that are demographically more similar and increases the ability to differentiate among the aggregated areas.

This latter approach to area differentiation is especially appropriate in Rhode Island, where there are 213 census tracts that comprise the entire area of the state and are consistent with existing city/town and county boundaries. (Census tracts are small geographic areas created for use with census data within which variation among the census descriptors is small while the populations are sufficiently large for meaningful analysis.) Indeed, one of the early applications of factorial ecology to census data was a factor analysis of Rhode Island's 1970 census data at the census tract level (Sakoda and Karon, 1974), in

which six factors were produced from an initial set of 42 variables derived from the census data set for that year. The analysis presented in this work deals entirely with census data tabulated at the level of these census tracts, but goes beyond the earlier work in utilizing the results of the factor analysis to define clusters of demographically similar census tracts.

The process which has been used to achieve such an area differentiation in Rhode Island consists of the following three steps:

1. selection of variables from the 1980 census and the construction of statistical measures to develop a social indicator data set,

2. factor analysis of these variables into a set of components or factors, and

3. cluster analysis of the census tracts based on the results of the factor analysis.

This report provides the results of this process and suggestions on how these geographical clusters of census tracts (geotypes) might be used in analyzing social statistics.

Selection of Variables

Data for Rhode Island from the 1980 Census of Population and Housing provided the basis for this study. The Bureau of the Census provides census data on many different machine-readable files further subdivided according to the type of geographic area by which the data is organized (census tract, zip code, standard metropolitan statistical area, etc.). Two files were selected as suitable for use in this analysis: Summary Tape File 1A (STF1A) and Summary Tape File 3A (STF3A) containing data specific to Rhode Island (Bureau of the Census 1981a and 1981b). STF1A contains 59 tables with 321 cells of census data at the census tract level collected from all households in the state. STF3A contains 150 tables with 1,126 cells of census data at the census tract level collected from a sample of the state's households, with the cell counts inflated to represent the entire population.

Data on these files describe both the characteristics of the housing units and the characteristics of the households and individuals that reside in them. (A household is defined as the group of individuals residing in a housing unit.) In order to reduce the census tabulations to usable information, it was necessary to select specific tabulations and to construct measures or variables from them that describe Rhode Island demographically. Once these variables were constructed, they were evaluated against seven selection criteria and reviewed by several social scientists. The final set of variables and how they were constructed appear in Table 1. Most of the variables were expressed as ratios and averages in order to standardize the variables with respect to the varying population sizes in census tracts.

The seven criteria that follow served as the primary basis for determining whether a particular variable should be included in the social indicator data set. It must be emphasized that the final data set derived is only one of many

that could have been formed. Other investigators, using the same criteria and the same census tabulations might have chosen a somewhat different data set. This, in turn, would lead to somewhat different results of the factor and cluster analyses. However, since nearly all of the variables selected were from groups of variables measuring similar characteristics, it would require substantial deletion or replacement of variables to effect noticeable changes in the results of the subsequent analyses.

Criterion 1: Has the variable been used in previous investigations?

The selection process began by considering the variables that had been used by Sakoda and Karon (1974) and by Humphrey and Shaw (1977) in their analyses of the 1970 census in Rhode Island and Hawaii, respectively. Several variables from these two studies were discarded either because they appeared to be poor area descriptors or because comparable items were not collected in the 1980 census. Of the 60 variables selected for this study, 38 were equivalent to or derived from variables appearing in these earlier efforts. Conversely, a number of the 22 newly added variables were constructed from data appearing for the first time in the 1980 census. For example, the number of cars per housing unit and the time taken to travel to work were included here and not in the earlier studies because they were not available in the 1970 census.

Criterion 2: Does the measure contribute to the overall description of Rhode Island from a broad societal perspective?

A variable, whether derived from a housing unit, household, or individual person perspective, will relate to one or more societal dimensions. The attempt was made to attain a balance among the various measures relating to these dimensions. The primary dimensions considered were age, sex, economic status, health, ethnicity, education, mobility, employment, living arrangements, family status, housing, and transportation. A particular variable may relate to one or

more of these dimensions: for example, family income relates primarily to economic status whereas percent completing college relates to education, economic status, and employment.

Criterion 3: Is the measure easily interpretable?

Although it is possible to derive complex variables from the data available, all the measures used are simple arithmetic combinations of the census tabulations. For the most part they consist of ratios of two tabulations (e.g., proportion of females in the labor force) or commonly used demographic descriptors (e.g., median gross rent). It should be noted that most of the derived variables are not in the form of standard demographic and socioeconomic indicators because of the need to meet other criteria. Therefore, these variables should not be used for other purposes, especially descriptive purposes, without a full knowledge and an accompanying presentation of their definitions.

Criterion 4: Is the measure unique?

From a single census tabulation (e.g., age) it is possible to generate a large number of variables. However, most of these variables would be trivially redundant and by definition highly correlated. In order to minimize the correlation between variables derived from the same tabulation, the technique of successive deletion of categories was employed. In this technique, also employed by Sakoda and Karon (1974), the population in the first category of a tabulation was divided by the total population in all categories to produce the first variable. The population in the second category was then divided by the total population excluding the population in the first category to produce the second variable. This process was repeated until all but one category had been transformed into a derived variable. The last category was not specifically transformed into a separate variable to avoid the problem of collinearity among the variables derived from a single tabulation, a problem that would have resulted

in reduced explanatory power for each derived variable in the group while adding no explanatory power to the group of variables taken together.

The simplest example is that of a two-category tabulation such as male/female; one or the other percentage can be included but not both since the second would be the exact complement of the first. On a more complex level, the census tabulation for race was treated as a three-category tabulation for this analysis, consisting of "white," "black," and "other." Two derived variables were created, the first being the white population divided by the total population, the second being the black population divided by the non-white population. Variations in the size of the population falling into the "other" category, although perhaps of intrinsic interest, are completely represented mathematically by variations in the variables already included, so a variable specific to this group would have been redundant and was therefore excluded from the analysis.

Criterion 5: Can the variable be calculated for over 99 percent of the census tracts?

Some potentially interesting variables could not be calculated for a number of census tracts, specifically where a small number of responses prohibited meaningful extrapolation of data from the sample census data. In these cases, variables with more than 1 percent of census tracts having unreported data were omitted. This criterion could have been made more stringent by setting the cutoff at 100 percent, but to do so would have necessitated eliminating several important measures related to poverty. Conversely, a lower cutoff than 99 percent would have led to computational problems with the factor analysis.

Criterion 6: Is the measure a continuous random variable?

It was deemed necessary for all created measures to be continuous random variables. Discrete variables would have to have been transformed for use in

the analyses, which would have led to difficulties in interpreting the results. Some measures as originally defined were found to contain only a few categories and were consequently eliminated from further consideration or redefined.

Criterion 7: Is there adequate variation among the values for the different census tracts to make the measure useful?

If a variable has the same value for every census tract, then it will be of no assistance in differentiating among the geographical units. There is no specific way of setting an optimal value for the amount of variation, but if two variables measure roughly the same dimension, the one with the greater variation should be selected. Table 2 presents some statistical measures of the amount of variation seen for each of the sixty variables selected for inclusion in the analysis. As well as establishing the suitability of the variables under this criterion, the table is of general interest for its demographic description of Rhode Island when used in combination with the definitions appearing in Table 1.

Factor Analysis

Principal component analysis is the most widely employed of a variety of procedures included under the general rubric "factor analysis." The procedure typically serves two purposes: data parsimony and data interpretation. Parsimony is achieved by replacing a set of P observed variables by a set of M new variables, where M is less than P, which retain most of the information. The new variables, or components, are formed as linear combinations of the original variables and are typically relatively uncorrelated. The new variables can also be used in subsequent analyses, such as a cluster analysis. The interpretation of the results involves an examination of the P x M pattern matrix of "loadings." A loading may be interpreted as the correlation between the original observed variable and the new variable. A group of variables, all with high loadings (i.e., strong correlations) on the same component, would be interpreted as all measuring aspects of the same underlying construct, or dimension. The content of the component variables provides the basis for giving a name to this construct.

A 60 x 60 matrix of correlations between the variables appearing in Table 1 was calculated as input for the principal component analysis. A problem with this data set was the presence of missing data. Missing data can typically be handled in one of three ways: (1) listwise deletion, (2) pairwise deletion, or (3) substitution of mean values. Listwise deletion would have meant the deletion of any case (i.e., census tract) for which an entry was missing for any of the 60 variables. This option was rejected because the exclusion of even one census tract was not acceptable. Pairwise deletion involves the exclusion of a case only for the calculation of the particular correlation coefficient involving the variable that has missing data. This is frequently the preferred option for handling missing data. However, since a large number of the observed

were skewed, this option would have led to an "ill-conditioned" correlation matrix. Among other things, this would have meant that some of the new variables would have had a negative variance. The third option is to replace all missing values with the mean value for all observations for that variable. This option was selected and resulted in an acceptable correlation matrix.

The next decision involved determining how many components to retain. A combination of three procedures was employed. The Minimum Average Partial (MAP) method involves the partialing out of components until the matrix of partial correlation is no longer reduced by further partialing. The SCREE method involves graphing the eigen values of the correlation matrix and looking for natural breaks in the plot. Variables to the right of the breaks are considered to be largely error and discarded. The third method, interpretation, involves examining the component pattern and determining if an adequate number of variables have a sufficiently high loading on the component for the component to be viewed as unambiguously identified. Based on a combination of these three procedures, solutions for M = 4 to M = 14 were considered, and the four-component solution was selected. The resulting pattern matrix was rotated to simple structure to assist in interpreting the factors. In this case, the most widely employed orthogonal rotation, varimax rotation, was selected. Table 3 presents the varimax-rotated component pattern with loadings multiplied by a factor of 100 for presentation. For ease of interpretation, only loadings of 0.30 or greater were interpreted. The four components were each defined by at least eight variables.

Component one was labeled "Wealth." Variables defining this component involved high proportions of single-family housing, married-couple families, and whites, and low proportions of divorced or separated persons, families with income below the poverty level, and vacant housing. The term "Wealth" was

chosen rather than "Income" to reflect the accumulation over time aspect of these variables, as contrasted with current income. More variables measured the negative or poverty aspect of this component than the positive or wealth aspect.

The second factor was labeled "Suburban" and was characterized by high proportions of families with children, females in the labor force, and two or more individuals in the family working, and low proportions of housing units with four or more stories, persons on public assistance income, elderly persons, and persons living alone. A relatively high number of persons per housing unit in combination with a relatively high number of rooms per housing unit, and high proportions of persons with no disability and of youth fairly well describe a suburban environment, irrespective of income or social standing.

The third factor was named "Group Quarters" and might be considered descriptive of a transient population or a relatively young professional population. It is primarily defined by a high proportion of individuals living in group quarters who are renters and who drive less than 15 minutes to work, with a low percentage of individuals occupying the same housing unit since 1975, a low proportion of native Rhode Islanders and a low percentage of individuals who drive alone to work. These variables are reinforced by a low percentage of married couples. These characteristics might well describe a military installation or an institution of higher education.

The fourth factor, named "Education," is characterized by high proportions of college graduates and professional workers and by low proportions of individuals who have not completed high school, are blue collar workers, and are foreign-born. There is also a high proportion of housing units with two or more baths and with central heating, which, along with a high value of owner-occupied housing units, a high proportion of self-employed individuals and government workers, complements the educational basis of this factor. Note that the

loadings of variables on the first factor "Wealth" have, for the most part, the same sign as their loadings on this fourth factor, the difference being the magnitude of the loading.

It should be emphasized that the titles placed upon the factors in the course of interpretation are meant to be suggestive rather than definitive and certainly cannot represent the complexity of the combination of variables contained in each factor. Alternative titles suggested for the "Wealth" factor include "Income" and "Poverty;" for the "Suburban" factor, the term "Family;" for "Group Quarters," the more common "Migration;" and for "Education," both "Occupation" and combinations of the two. These alternative titles have much validity and serve to demonstrate that the full range of interpretations of each factor should be kept in mind when considering how these factors describe individual census tracts and groups of census tracts.

Once the components were determined, the final step in the factor analysis was the calculation of scores for each census tract. Two accepted alternatives exist for creating scores for the new variables: component scores and scale scores. Component scores represent weighted linear composites of all the observed variables, where the weights are proportional to the factor loadings. The principle advantage of component scores is that they are completely uncorrelated. Scale scores, on the other hand, are unweighted linear composites of only those observed variables that are selected for inclusion in each component. The principle advantages of scale scores are simplicity of scoring, ease of interpretation, and stability in cross-validation. Scale scores, however, will generally be somewhat correlated. Because of the advantages of scale scores, they were used for this analysis.

Each of the observed variables was transformed to standard score form (mean = 0.0, standard deviation = 1.0) before computation of scale scores.

Variables with negative loadings were subtracted during the computations. Complex variables, i.e., those having nearly equivalent loadings on more than one component, were deleted before computation since their inclusion would have increased the correlation between the scale scores. Also, if a complex variable were included in just one scale, the choice of which scale to use would necessarily have been somewhat arbitrary and not defensible. For example, Income, an important demographic variable, was excluded from the calculation of scale scores since it had high and essentially equal loading on two factors (Wealth and Education). Table 3 provides a listing of the variables included in the four scale scores. The scale scores were then standardized (mean = 50, standard deviation = 10) for presentation.

Each census tract is therefore described by four scores describing the Wealth, Suburban, Group Quarters, and Education levels of the tract. High scores are positive, i.e., higher wealth, higher education, etc. These scores are all comparable because of standardization and can be interpreted directly. The four scores are not all normally distributed. The first scale, "Wealth," is negatively skewed. The maximum score for any census tract was 63.5 and a large number of tracts have scores between 55 and the maximum. The minimum score is 5.7, and there are a number of extremely low scores. This can be interpreted as indicating that this scale does not allow us to distinguish between a "wealthy" census tract and an "extremely wealthy" census tract but does allow us to distinguish degrees of poverty. The second scale, "Suburban," has some extreme scores on the low or "urban" side involving five census tracts. The rest of the distribution is normal. Scale three, "Group Quarters," is positively skewed with four tracts having extremely high scores. The fourth scale, "Education," is approximately normally distributed.

Cluster Analysis

While factor or component analysis can be viewed as a parsimony procedure for the variables (i.e., the original P observed variables are reduced to M new variables), cluster analysis can be viewed as a parsimony procedure that operates on the cases. The original N heterogeneous cases are combined into K homogeneous subgroups. In the present case, census tracts are grouped with other census tracts with similar characteristics. Since cluster analysis is a less widely employed procedure than factor analysis, the procedures are less well established. Hence, the rationale for decisions are described here in detail.

The first decision in a cluster analysis involves the selection of the input variables that will be the basis for the clustering. The input variables should (1) be limited in number, (2) be relatively uncorrelated with each other, and (3) have comparable means and standard deviations. The first property serves to insure that the final clusters will be easily interpretable. The second and third properties are necessary so that, in the process of forming the clusters, inappropriate weight is not given to a variable that is highly correlated with another or to a variable that has a high mean or standard deviation. For the present analysis, the four scale scores described in the previous section meet all these criteria.

The input data set was in the form of a 213 x 213 matrix of (squared) Euclidean distances. The Euclidean distance is calculated for each possible pair of units (initially, census tracts) and is based on the difference between the set of standardized scores for each unit. The difference for each pair of tracts for each factor is squared and then summed over the factors. Thus, if the two tracts have similar factor scores, this metric will tend to be close to zero. If the scores are not similar, this metric will appproach a value equal to the number of factors being used. The Euclidean distance metric is one of

several possible distance metrics and is considered the most appropriate when the data meet the above assumptions.

The most common type of clustering procedure is hierarchical clustering. The two units separated by the smallest Euclidean distance are formed into a single cluster, which thereafter is treated as a single unit until combined in a new cluster. The distance matrix is then recomputed, and then the two units with the smallest distance are combined. Again, the distance matrix is recomputed. This procedure continues until all units are finally combined into one large cluster. Since the procedure will consider all possible solutions between K = 213 clusters and K = 1 cluster, an important decision is determining a stopping point for the clustering.

A variety of different hierarchical clustering algorithms have been developed. The present analysis employed Ward's Minimum Variance Hierarchical Clustering Algorithm (Andenberg, 1973) in the CLUSTER procedure available in the SAS82 computer package (SAS, 1982). Several other clustering procedures were also examined and found to produce only minor differences in the final solution.

Three criteria were used to determine the number of clusters. The primary one was the cubic clustering criterion (CCC), which is a statistic based on the within-cluster sums-of-squares matrix (Sarle, 1982). In general, the CCC should be a positive value greater than two, and the optimum number of clusters is that at which the CCC begins to decrease as the number of clusters increases. This occurred when there were 14 clusters. Two secondary criteria were also used. The first of these involved determining whether there was sufficient differentiation between the average factor scores to make the cluster unique. The second criteria was whether there was a sufficient population in each major cluster to provide a basis for calculation of rates. The 14-cluster solution met both of these criteria.

This solution yielded ten major clusters, ranging in size from 12 census tracts to 34 census tracts. There were also four minor clusters consisting of from two to five tracts each. Table 4 presents the 213 census tracts sorted by cluster and described by their scores on the four scales: (1) Wealth, (2) Suburban, (3) Group, and (4) Education. The scores are standardized such that each scale has a mean of 50 and a standard deviation of 10 and are therefore directly interpretable. For example, the first census tract in Cluster 1 is high on Wealth, average on Suburban, below average on Group, and high on Education. With some slight variation, this description would apply to any of the other tracts in this cluster. To assist in the interpretation of the clusters, two types of figures are presented along with the following cluster descriptions. A profile of the average scores for all census tracts forming the cluster is presented first, then a map illustrating the geographic location of the census tracts.

When clustering geographical units, there is usually one cluster that has average scores on all the measures (scales). That cluster in this analysis was Cluster 8 which was slightly above average on the Wealth, Group, and Education scales, as seen in the profile (Figure 1). This cluster contains census tracts from throughout the state as seen on the map (Figure 2). Cluster 4 is similar to Cluster 8 but is lower on Group and Education and slightly higher on Wealth and Suburban (Figure 3). These census tracts tend to be located on the periphery of the metropolitan areas of the state with some notable exceptions (e.g., Hopkinton) (Figure 4).

Four of the major clusters were below average in Education. Cluster 5 was labeled "Low Education," since its scores were approximately average on all scales, with the exception of Education which was slightly below average (Figure 5). This particular cluster contains census tracts primarily from Providence,

East Providence, Pawtucket, and Woonsocket (Figure 6). Clusters 9, 6, and 7 all have profiles that are similar, with Cluster 9 and 6 being the more extreme of the three. Cluster 9 was characterized as extremely poor, urban, above average in Group Quarters, and very low in Education (Figure 7). Except for single census tracts in Newport and Woonsocket, this cluster is a contiguous geographic area that includes much of the inner city of Providence (Figure 8). Cluster 6 had a profile that was poor, average on Suburban, above average on Group Quarters, and very low on Education (Figure 9). This cluster includes census tracts predominantly in Pawtucket, Central Falls, and Woonsocket, with one additional tract each from Providence and Bristol (Figure 10).

Cluster 7 had a profile that was low on Wealth and Education, but not as low as Clusters 9 and 6 (Figure 11). While this cluster is dominated by census tracts in Providence and Pawtucket, there are census tracts from East Providence, Woonsocket, West Warwick, Warren, and Westerly (Figure 12).

The other four major clusters were characterized by above average education. Cluster 11 had a profile featuring both high Education and high Group Quarters, but average Wealth and average Suburban (Figure 13). This cluster includes much of Newport and Middletown, the area near Brown University in Providence, New Shoreham, and Quonset Point in North Kingstown. (Figure 14). Cluster 3 was characterized by high Wealth, high Suburban, low Group Quarters, and above average Education scores (Figure 15). This cluster includes most of the northwestern and northern part of the state (excluding Woonsocket), plus parts of Warwick, East Providence, and Tiverton (Figure 16). Cluster 1 was similar to Cluster 3 but higher on the Education scale (Figure 17). This cluster contains many of the older, wealthier suburban areas as well as the expanding western portion of Washington County (Figure 18). The profile for Cluster 2 is very similar to Cluster 1 with the exception that Cluster 2 is much

higher on the Education scale (Figure 19). It is not surprising to find such areas as the East Side of Providence, Barrington, East Greenwich, Jamestown, South Kingstown, and other "shore" areas represented in this cluster (Figure 20).

The four minor clusters are characterized by one or more extremely high or low scores. Clusters 12 and 13 are similar in that both have low education scores. Cluster 12 is extremely low on the Wealth scale (Figure 21) and includes census tracts from the inner city of Providence (Figure 22). Cluster 13 is not as low as Cluster 12 on the Wealth scale but is much lower on the Suburban scale (Figure 23). This cluster contains two census tracts from Pawtucket and one from Woonsocket (Figure 24).

Clusters 10 and 14 represent unique aggregates. Cluster 10 is extremely high on the Group and very high on the Education scales (Figure 25). This cluster includes the census tracts for the University of Rhode Island, Brown University, and the Naval Education and Training Center (Figure 26). Cluster 14 is wealthy, urban, and above average on education (Figure 27) and includes two census tracts in the downtown area of Providence (Figure 28).

The average scale scores for each of these clusters appear in Table 4 along with scale scores for each component census tract arranged alphabetically by city/town within each cluster. In Table 5 the scale scores are presented by census tract ordered alphabetically by city/town across all clusters, with each tract's cluster assignment appearing for reference to Table 4. These tables may prove useful in determining population-based rates and geographic densities for the clusters when used with other data for which census tract assignment is appropriate. Finally, Tables 6 and 7 present the 1980 census population and the land area in square miles for each of the clusters derived in this analysis, for each city and town, and for each census tract, organized as in Tables 4 and 5, respectively.

Socioeconomic Status

In the previous cluster analysis, census tract clusters were formed using information from all four factors. This resulted in a set of clusters that partitioned the state on four different dimensions. In this section, clusters based on a subset of the four factors are examined, specifically clusters that partition the state on the basis of the factors Wealth and Education. There are two reasons for this selection. First, Wealth and Education taken together approximate the sociological construction of socioeconomic status (SES), and SES has been shown to be a correlate of health status measures in numerous studies. Second, one of the factors appearing in the factor analysis of the 1970 Census data for Rhode Island (Sakoda and Karon, 1974) was entitled "Socioeconomic Status" and contained component variables identical or similar to variables appearing in the current factors Wealth and Education. The 1970 SES factor was later used to partition the state's 213 census tracts into four SES groups based on their scores on that single measure. (It should be noted that the partitioning was based on the scores determined for "three-digit" tracts, i.e., for the tracts in use before the subdivisions were created using the 1970 Census data. Thus, for example, the original census tract 401, which comprised the entire town of Portsmouth, was placed in the High SES group, although census tract 401.01, if considered independently, would have been placed in the Middle SES group in 1970.) In the 1980 analysis, the additional level of complexity introduced by considering two measures in the partitioning process necessitates the use of more sophisticated statistical techniques.

The following paragraphs describe the statistical process followed to create the SES clusters based on the 1980 Census data for Rhode Island. The steps in this process are as follows:

1. Cluster Analysis
2. Discriminant Analysis

3. Analysis of Variance
4. Comparison with 1970 SES Groups

Sakoda and Karon (1974) derived an SES factor that was later used to differentiate the state into four groups representing high, middle, low, and poverty SES. The assignment of a particular census tract to one of these four groups was based on the factor score for that census tract as compared to the state average. The method used here is similar except two factors are involved, necessitating the use of cluster analysis. The SES clusters are obtained by minimizing the sum of the Euclidean distances from the centroids of the clusters to the factor scores of the census tracts comprising the clusters. Several different algorithms are available to accomplish this, and one of the more common ones (Ward's) was used here as it was in the previous cluster analysis.

Ward's cluster analysis provided a series of hierarchically consistent clusters beginning with two clusters and finally decomposing to 17 clusters. However, to maintain consistency with the 1970 SES groups, the four-cluster solution was selected for further analysis.

The discriminant function analysis is used to distinguish between two or more groups of objects based on two or more measures. In this case, the groups are the SES clusters, the objects are the census tracts, and the measures are the factor scores. The distance between each census tract and the centroid of each cluster is calculated, and the probability of that census belonging to each cluster is determined. This is similar to the cluster analysis algorithm except in the discriminant function the distances are weighted by the within-cluster covariance matrix. The results of the discriminant analysis are an improvement on the cluster analysis results, hence the final census tract assignment was based on the discriminant function. The discriminant function found 17 census tracts that required reclassification.

Finally, a one-way analysis of variance model was used to determine whether the SES clusters were significantly different from each other on one or both of the factors. All four clusters were significantly different from each other on both the Wealth and Education factors.

In the first step of the cluster analysis, two clusters were formed that partitioned the state into Cluster "Below Average SES" and Cluster "Above Average SES." In the next two clustering steps, each of these clusters was divided into two clusters resulting in the four-cluster solution. Clusters "Poverty SES" and "Low SES" were derived from Cluster "Below Average SES," and Clusters "Middle SES" and "High SES" were derived from Cluster "Above Average SES." These clusters, their names, and mean values on both factor scores appear in Table 8.

The cluster labeled "Poverty SES" has very low scores on both the Wealth and Education factors. The census tracts comprising this cluster are in the inner cities of Providence, Woonsocket, Pawtucket, and Central Falls with comparable single tracts from Bristol, Newport, and Warren (Figure 29).

The cluster labeled "Low SES" has a relatively low score on the Education factor and a score on the Wealth factor that is only slightly below the state average. The census tracts that make up this cluster are predominantly in the urban residential sections of Providence, East Providence, Pawtucket, and Woonsocket and in smaller population centers such as Bristol, Westerly, and West Warwick (Figure 30).

The cluster labeled "Middle SES" is slightly above the state average on both factors and contains the largest number of census tracts of any of the four clusters. Tracts in this cluster are located primarily in two types of locations, the rural areas of the western part of the state and the suburban and residential areas near Providence, such as parts of North Providence, Johnston,

Cranston, and Warwick (Figure 31). Other tracts in this large cluster are scattered throughout the state.

The final cluster was called "High SES" because it has the highest average scores of the four clusters on both the Wealth and Education factors. For the most part, these census tracts are found along the coastline, with a few non-coastal areas that represent the outlying suburbs of Providence and a portion of Providence's residential East Side (Figure 32).

The 1970 SES groups and the 1980 SES clusters are comparable only in that they were both derived from decennial census data using multivariate statistical techniques. Since the set of input variables differed between the two analyses and the statistical techniques were not the same, it should be expected that the results would not be the same. Additional complicating factors in the comparison would be any real changes that have occurred between 1970 and 1980 to the demographic characteristics of the State. Nevertheless, there are a few aspects of the two analyses and their results that warrant comparison and discussion.

The most obvious difference between the 1970 and 1980 assignments is that twice as many census tracts with more than twice the total population appear in the 1980 Poverty cluster (Table 9). The other clusters consequently all have fewer or the same number of tracts and lower populations than their 1970 counterparts. This is not to say that the number of poor Rhode Islanders has more than doubled over the ten-year period. Indeed, the 19 tracts termed Poverty in 1970 score lower than the 38 tracts in the 1980 Poverty cluster on the economic measures presented in Table 9, indicating that the 1970 group was lower in SES than the 1980 group on average. The implication is that the Poverty tracts in 1980 form a mathematically more coherent group based on the Wealth and Education factors than the 1970 Poverty tracts, even though they

represent a broader range in SES than the smaller group.

Also of interest are the movements of census tracts from one group in the 1970 assignments to another in the 1980 clusters (Table 10). Of the 38 tracts in the 1980 Poverty cluster, 18 were classified as Poverty in 1970 and the remainder as Low. The 1980 Low cluster contained census tracts from each of the 1970 groups, including the only remaining 1970 Poverty tract, 30 tracts from Low, 15 from Middle, and 1 from High. The 1980 Middle cluster showed the largest percentage overlap (74 percent) with its 1970 counterpart and added 14 tracts from the 1970 High group and 6 tracts from the 1970 Low group. The 1980 High cluster retained 36 tracts from the 1970 High group, plus 13 from Middle and 2 from Low. Overall, 141, or almost exactly two-thirds of all tracts, remained in the similarly titled group from 1970 to 1980, 20 rose one level, and 2 rose two levels. On the other hand, 49 tracts fell one level, and 1 fell two levels. The relative number of rises and declines reflects the increased size of the Poverty cluster in 1980 and the shift of tracts downward through the Low and Middle groups to accommodate that increase.

Comparison of selected characteristics of the two sets of SES assignments also proves interesting. In Table 9, three economic indicators derived from the 1980 Census are calculated for both SES groupings. All three of these measures increase as SES goes from Poverty to High in both the 1970 and 1980 assignments. The only noticeable divergence is in the Poverty group, which is explained above. Also presented in Table 9 for both sets of SES assignments are the coefficients of variability (defined as the standard deviation divided by the mean and expressed as percentages) for the same three indicators plus for the factors Wealth and Education. The coefficient of variability is a standardized measure of the relative variability of the indicator among census tracts within the groups. Therefore, the smaller the coefficient of variability, the more

homogeneous the group according to the chosen indicator. It can be seen that the 1980 clusters are generally more uniform than the 1970 groups in terms of the factors Wealth and Education, and slightly more uniform than the 1970 groups in terms of the three economic indicators.

Summary

The results of the factor analysis presented in this report are here compared to two similar reports of factorial ecology based on census data. Humphrey and Shaw (1977) analyzed the 1970 census data for Oahu, Hawaii, in one of the first reports to employ both factor analysis and cluster analysis. Sakoda and Karon (1974) performed a factor analysis on the 1970 census data for the state of Rhode Island. The four factors identified in the present report (Wealth, Education, Group Quarters, and Suburban) are not identical with those from the two previous analyses, but there are some strong similarities.

The work of Sakoda and Karon produced six factors from the 1970 census data for census tracts in Rhode Island, "Socioeconomic Status" or SES, "Group Quarters," "Migration," "Suburban," "Non-Ethnic," and "Social Stability." Several of these factors, individually or taken in groups, have strong similarities to factors produced in the current work. Of the eight variables forming the 1970 SES factor, seven have equivalents in the 1980 study. Of these seven, four appear in the 1980 Education factor, one appears in the 1980 Wealth factor, one loaded on both the Education and Wealth factors (and therefore was excluded from the scale scores), and the final variable appeared in none of the 1980 factors. Taken together, the 1970 Group Quarters and 1970 Migration factors were formed from eleven variables, of which nine have equivalents in the 1980 study. Of these nine, five apppeared in the 1980 Group Quarters factor, two appeared in the 1980 Suburban factor, one loaded on both the Group Quarters and Suburban (and was therefore excluded from the scale scores), and one appeared in the 1980 Wealth factor. Taken together, the 1970 Suburban factor and the 1970 Social Stability factor were composed of ten variables, of which eight had equivalents in the 1980 study. Of these eight, seven appeared in the 1980 Wealth factor, including all five that formed the 1970 Social Stability factor, and one

appeared in the 1980 Suburban factor. Thus there are close approximations for three of the 1980 factors among single or paired 1970 factors. Only the 1980 Suburban factor, which included variables that appeared in four of the 1970 factors, appears to be unique to the 1980 study.

The differences between the results of the 1970 and 1980 factor analyses can be due to any or all of three causes. First, the methodologies used in the two studies differ substantially; Sakoda and Karon produced clusters of variables and then generated factors from these clusters using multiple group factor analysis, whereas this study employed principal component factor analysis followed by orthogonal varimax rotation. Second, the initial set of variables used as input to the analysis differed in the two studies, as explained in detail earlier. The factors themselves were composed substantially from variables available to both studies, however; over 80 percent of the variables composing the 1970 factors and over 70 percent of the variables composing the 1980 factors were common to both studies. Only the 1980 Suburban factor drew as many as half of its component factors from the group of variables unique to the study in which it appeared. Finally, there were undoubtedly changes in the composition and characteristics of the Rhode Island population between the 1970 Census and 1980 Census that would cause changes in the factors measuring these underlying properties. Because of the differences in methodology and input variables, the results of the 1970 and 1980 studies cannot be used to document such changes, but that was not an objective of either of the Rhode Island studies.

The Humphrey and Shaw report employed a methodology more similar to that used here, but it was based on data from a very different geographic and sociological area. Two factors from that report clearly resemble those obtained in the present study: "Wealth" and "Education." Two other credible

cross-identifications with factors from the Humphrey and Shaw report are possible: "Living Alone" with "Group Quarters" and "Stable Family Structure" with "Suburban." The other factors reported in that study seem to be unique to the location: "Civilian Workers" and "Oriental Families." However, some of the variables included in "Civilian Workers" are similar in content to variables included in the present "Suburban" factor.

The ways in which the results of this study are made will depend on the specific applications and needs of the user. In some cases the initial set of social indicators may be most useful, while in other situations, the factor scores or the clusters might be more appropriate. Regardless of the application, there are a few points that should be considered when employing the results of this study:

1. Even though specific criteria were used in the selection of the variables, it can be argued that the selection of any set of initial variables is necessarily arbitrary.

2. The specific factors obtained are a function of the selected set of social indicators. Different results would be expected if certain variables were omitted or others included.

3. The ten major clusters in the fourteen-cluster solution provide a natural partitioning of the state and include large enough populations from which to compute valid rates in most cases.

4. The four minor clusters in the fourteen-cluster solution should not be aggregated, since they represent unique and diverse sub-populations.

5. The four-cluster solution generated from the factors "Wealth" and "Education" provide a geographic differentiation based on the construction of socio-economic status. Variations in the factors "Suburban" and "Group Quarters" were ignored in the determination of these clusters.

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Tables

Table 11

Definition of Variables Used in Factor Analysis
of Census Tracts, 1980

Variable Name	Definition N=Numerator; D=Denominator	Source on Census Data Files*
YOUTH	N: Population Age Under D: Total Population	STF1A Table 10 Cells 1-16 STF1A Table 1 Cell 1
YOUNG	N: Population Age 16 D: Population Age 16	STF1A Table 10 Cells 1-4 STF1A Table 10 Cells 1-16
AGEPOP	N: Population 16 Age 16+ D: Population 16 Age 16+	STF1A Table 10 Cells 24-26 STF1A Table 10 Cells 17-26
FEMPOP	N: Female D: Total Population	STF1A Table 1 Cell 2 STF1A Table 1 Cell 1
WHITE	N: Population Classified D: Total Population	STF1A Table 7 Cell 1 STF1A Table 1 Cell 1
BLACK	N: Population Classified D: Population Classified	STF1A Table 7 Cell 2 STF1A Table 7 Cells 2-15
GROUP	N: Population in Group Quarters D: Total Population	STF1A Table 1 Cells 2-3 STF1A Table 1 Cell 1
SINGLP	N: Single Parent Households D: Total Households	STF1A Table 10 Cells 1- STF1A Table 10 Cells 1-17
FAMILY	N: Persons in Family Households D: Total Population	STF1A Table 10 Cell 1 STF1A Table 1 Cell 1
FAMCHILD	N: Own Children in Family Households D: Total Population	STF1A Table 10 Cell 1 STF1A Table 10 Cells 1-
FEMFAM	N: Female Family Householder D: Total Households	STF1A Table 10 Cell 2 STF1A Table 10 Cell 1
FEMFAMCH	N: Female Family Householder D: Total Households	STF1A Table 10 Cell 5 STF1A Table 10 Cells 5-6
FEMLF	N: Female Labor Force Age 16+ D: Female Age 16+	STF1A Table 31 Cells 1-3 STF1A Table 30 Cells 1-5

*Source: Census of Population and Housing, 1980: Census Tracts, Standard Tape Files 1A

Table 1 (cont'd)

Variable Name	Definition (N=Numerator D=Denominator)	Source on Census Data Files
MARIED	N: Persons Ever Married Age 15+	STF1A Table 14 Cells 2-5, 7-10
	D: Population Age 15+	STF1A Table 10 Cells 9-26
DEVSEP	N: Divorced or Separated Persons Age 15+	STF1A Table 14 Cells 3,5,8, 10
	D: Persons Ever Married Age 15+	STF1A Table 14 Cells 2-5, 7-10
VACBORD	N: Vacant Boarded-Up HU's	STF1A Table 52 Cell 1
	D: Total HU's	STF1A Table 4 Cell 1
RENTVAC	N: Vacant for Rent HU's (Two Months or Longer)	STF1A Table 53 Cell 1
	D: Total HU's	STF1A Table 4 Cell 1
SALVAC	N: Vacant for Sale HU's (Six Months or Longer)	STF1A Table 54 Cell 1
	D: Total HU's	STF1A Table 4 Cell 1
SINGLHU	N: One-Unit Detached, Year-Round HU's	STF3A Table 102 Cell 1
	D: Year-Round HU's	STF3A Table 11 Cell 1
RENTER	N: Total Renter-Occupied HU's	STF1A Table 26 Cell 2
	D: Occupied HU's	STF1A Table 26 Cell 1
HOUSE39	N: Year-Round HU's Built Before 1940	STF3A Table 109 Cell 7
	D: Year-Round HU's	STF3A Table 11 Cell 1
PERSHU	Median Persons per Occupied HU	STF1A Table 34 Cell 1
ROMSHU	Median Rooms per Occupied HU	STF1A Table 31 Cell 1
RENT	Median Gross Rent	STF3A Table 127 Cell 1
VALUEHU	Median Value of Owner-Occupied HU's	STF1A Table 39 Cell 1
BATHS	N: Occupied HU's with 2 or More Baths	STF3A Table 117 Cell 8
	D: Occupied HU's	STF3A Table 11 Cell 2
AIRCOND	N: Year-Round HU's with No Air Conditioning	STF3A Table 120 Cell 1
	D: Year-Round HU's	STF3A Table 11 Cell 1

Table 1 (cont'd)

Variable Name	Definition (N=Numerator D=Denominator)	Source on Census Data Files
HEATING	N: HU's with Central Heating	STF3A Table 111 Cells 1-4
	D: Year-Round HU's	STF3A Table 11 Cell 1
HU4PLUS	N: HU's in Structures of 4+ Stories	STF3A Table 105 Cells 2-4
	D: Year-Round HU's	STF3A Table 11 Cell 1
OCCHU59	N: HU's Occupied by Same Householder since 1959	STF3A Table 110 Cells 5-6
	D: Occupied HU's	STF3A Table 11 Cell 2
OCCHU75	N: Persons Age 5+ Living in Same House in 1975	STF3A Table 34 Cell 1
	D: Population Age 5+	STF3A Table 15 Cells 4-26
HUOCC80	N: HU's First Occupied by Current Householder in 1979-80	STF3A Table 110 Cell 1
	D: HU's First Occupied by Current Householder after 1959	STF3A Table 110 Cells 1-4
FOREIGN	N: Foreign Born Persons	STF3A Table 33 Cell 4
	D: Total Population	STF3A Table 1 Cell 1
NATIVE	N: Persons Born in Rhode Island	STF3A Table 33 Cell 1
	D: Persons Born in the United States	STF3A Table 33 Cells 1-3
INCOME	Median Family Income	STF3A Table 74 Cell 1
POVERTY	N: Families with Income Below Poverty Level in 1979	STF3A Table 88 Cells 1-2
	D: Families	STF3A Table 9 Cell 1
HSEDUC	N: Persons Age 18+ Not Completed High School	STF3A Table 50 Cell 1
	D: Persons Age 18+	STF3A Table 15 Cells 12-26
COLLEGE	N: Persons Age 25+ Completed Four Years of College	STF3A Table 48 Cell 5
	D: Population Age 25+	STF3A Table 15 Cells 17-26
PROFESS	N: Persons Employed in Executive, Administrative, Management, or Professional Occupations	STF3A Table 66 Cells 1-2
	D: Employed Persons 16+	STF3A Table 66 Cells 1-13

Table 1 (cont'd)

Variable Name		Definition (N=Numerator D=Denominator)	Source on Census Data Files
BLUECOL	N:	Persons Employed in Blue Collar Occupations	STF3A Table 66 Cells 11-13
	D:	Persons Employed except in Executive, Administrative, Management, or Professional Occupations	STF3A Table 66 Cells 3-13
FEMLAB'	N:	Females in Labor Force	STF3A Table 55 Cells 5-7
	D:	Females Age 16-64	STF3A Table 55 Cells 5-8
MALUNEM	N:	Unemployed Males in Labor Force	STF3A Table 55 Cell 3
	D:	Males in Labor Force	STF3A Table 55 Cells 1-3
ENG517	N:	Persons Who Speak Only English at Home Age 5-17	STF3A Table 27 Cell 1
	D:	Population Age 5-17	STF3A Table 15 Cells 4-11
ENG18PL	N:	Persons Who Speak Only English at Home Age 18+	STF3A Table 27 Cell 6
	D:	Population Age 18+	STF3A Table 15 Cells 12-26
NODISAB	N:	Persons Age 16-64 with No Work Disability	STF3A Table 53 Cell 4
	D:	Non-Institutionalized Persons Age 16-64	STF3A Table 53 Cells 1-4
PREVDISB	N:	Persons Age 16-64 Prevented from Working Due to Work Disability	STF3A Table 53 Cell 2
	D:	Persons Age 16-64 with Work Disability	STF3A Table 53 Cells 1-3
TRANDISB	N:	Persons Age 65+ with Public Transport Disability	STF3A Table 54 Cell 3
	D:	Non-Institutionalized Persons Age 65+	STF3A Table 54 Cells 3-4
FEMLABCH	N:	Females in Labor Force Age 16+ with Children Age 0-5 Years	STF3A Table 57 Cell 1
	D:	Females Age 16+ with Children Age 0-5 Years	STF3A Table 57 Cells 1-2
CARSTWO	N:	Occupied HU's with 2+ Vehicles	STF3A Table 123 Cells 2-3
	D:	Occupied HU's	STF3A Table 11 Cell 2

Table 1 (cont'd)

Variable Name	Definition (N=Numerator D=Denominator)	Source on Census Data Files
FEMFAMPV	N: Female-Headed Families in Poverty Status	STF3A Table 86 Cells 13-16
	D: Female-Headed Families	STF3A Table 20 Cells 5-6
FAMCHPOV	N: Families in Poverty Status with 1+ Children	STF3A Table 87 Cells 4-6
	D: Families with 1+ Children	STF3A Table 87 Cells 1-6
POV65PL	N: Families in Poverty Status with Householder Age 65+	STF3A Table 88 Cell 2
	D: Families with Householder Age 65+	STF3A Table 88 Cells 2,4,6
PAINCOM	N: Households with Income from Public Assistance	STF3A Table 71 Cell 7
	D: Total Households	STF3A Table 10 Cell 1
DRIVE1	N: Persons Driving Alone to Work	STF3A Table 40 Cell 1
	D: Workers Age 16+	STF3A Table 40 Cells 1-6
PRIELEM	N: Persons Age 3+ in Private Elementary or High Schools	STF3A Table 44 Cells 2-3
	D: Persons Age 3+ in Elementary or High Schools	STF3A Table 45 Cells 2-3
TWOWORK	N: Families with 2+ Workers	STF3A Table 79 Cell 3
	D: Total Families	STF3A Table 9 Cell 1
SELFEMP	N: Self-Employed and Family Workers	STF3A Table 67 Cells 5-6
	D: Employed Persons Age 16+	STF3A Table 67 Cells 1-6
GOVWORK	N: Government Workers	STF3A Table 67 Cells 2-4
	D: Employed Persons except Self and Family Employed	STF3A Table 67 Cells 1-4
DRIVE15	N: Persons Who Drive Less Than 15 Minutes to Work	STF3A Table 41 Cells 1-3
	D: Workers Age 16+ Not Working At Home	STF3A Table 41 Cells 1-8
DENSITY	N: Total Population	STF3A Table 1 Cell 1
	D: Land Area - Square Miles	LANDAREA

HU = Housing Unit
*Bureau of the Census, 1981a and 1981b.

TABLE 2.
UNIVARIATE DESCRIPTIVE STATISTICS USED IN FACTOR ANALYSIS

VARIABLE	N*	MINIMUM VALUE	MAXIMUM VALUE	MEAN	STANDARD DEVIATION
FAMCHILD	213	0.0000	0.9156	0.4707	0.1009
FEMFAM	211	0.5714	1.0000	0.8095	0.0832
FEMFAMCH	211	0.0000	1.0000	0.5409	0.1576
FERTLTY	213	0.0000	1.9580	1.1662	0.2884
SINGLHU	213	0.0000	0.9606	0.5171	0.2377
HOUSE39	213	0.0043	0.9291	0.4315	0.2401
RENT	213	99.0000	400.0000	236.8099	50.5770
BATHS	213	0.0000	0.5377	0.1196	0.1012
AIRCOND	213	0.2623	1.0000	0.6864	0.1433
HEATING	213	0.4704	1.0000	0.8474	0.1252
HU4PLUS	213	0.0000	0.9494	0.0438	0.1202
OCCHU59	213	0.0000	0.4546	0.2115	0.0836
OCCHU75	213	0.0000	0.8440	0.5987	0.1307
HUOCC80	213	0.0972	0.5965	0.2487	0.0896
FOREIGN	213	0.0161	0.3865	0.0913	0.0636
NATIVE	213	0.0612	0.9442	0.7365	0.1532
INCOME	213	6915.0000	39348.0000	18980.9971	4974.8765
POVERTY	213	0.0000	0.4011	0.0848	0.0755
HSEDUC	213	0.0018	0.7764	0.3736	0.1503
COLLEGE	213	0.0185	0.6686	0.1528	0.1162
PROFESS	213	0.0301	0.6946	0.2040	0.0992
BLUECOL	213	0.0391	0.5712	0.2805	0.1052
FEMLAB	213	0.0957	0.7059	0.5147	0.0738
MALUNEM	213	0.0000	0.2068	0.0534	0.0277
ENG517	212	0.3431	1.0000	0.8926	0.1101
ENG18PL	213	0.3680	0.9859	0.8078	0.1291
NODISAB	213	0.3846	0.9805	0.9042	0.0559
PREVDISB	213	0.0000	0.7532	0.5043	0.1234
TRANDISB	212	0.0000	1.0000	0.1413	0.0806
FEMLABCH	211	0.0000	0.7430	0.4390	0.1343
CARSTWO	213	0.0130	0.8193	0.4511	0.1625
FEMFAMPV	211	0.0000	0.8571	0.2544	0.1575
FAMCHPOV	212	0.0000	0.5497	0.1291	0.1115
POV65PL	211	0.0000	0.6275	0.0473	0.0619
PAINCOM	213	0.0092	0.3940	0.0947	0.0662
DRIVE1	213	0.1429	0.8628	0.6367	0.1248
PRIELEM	212	0.0000	0.6893	0.1660	0.1132
TWOWORK	213	0.0000	0.7663	0.5567	0.0981
SELFEMP	213	0.0000	0.2556	0.0505	0.0315
GOVWORK	213	0.0000	0.5278	0.1668	0.0639
DRIVE15	213	0.0998	0.9651	0.4138	0.1274
YOUTH	213	0.0134	0.9303	0.3853	0.0794
YOUNG	213	0.0060	0.3110	0.1857	0.0422
AGED65	213	0.0029	0.8798	0.2266	0.0896
FEMPER	213	0.2327	0.7706	0.5247	0.0374
WHITE	213	0.2443	0.9984	0.9404	0.1272
BLACK	213	0.0000	1.0000	0.3638	0.2231
GROUP	213	0.0000	0.8909	0.0356	0.1047
SINGLE	213	0.0011	0.8121	0.1029	0.0886
FAMILY	213	0.4010	0.9750	0.7980	0.0979
MARIED	213	0.0535	0.8173	0.7123	0.0856

TABLE 2.
UNIVARIATE DESCRIPTIVE STATISTICS USED IN FACTOR ANALYSIS

VARIABLE	N*	MINIMUM VALUE	MAXIMUM VALUE	MEAN	STANDARD DEVIATION
DEVSEP	213	0.0384	0.4369	0.1160	0.0594
VACBORD	213	0.0000	0.5082	0.0086	0.0476
RENTVAC	213	0.0000	0.1259	0.0190	0.0213
SALVAC	213	0.0000	0.0456	0.0021	0.0043
RENTER	213	0.0659	0.9959	0.4315	0.2440
PERSHU	213	1.0500	3.9038	2.3652	0.4079
ROMSHU	213	2.1000	5.6000	5.0159	0.6002
VALUEHU	213	0.0000	98000.0000	45487.5906	15447.7075
DENSITY	213	54.1893	20893.0496	5336.1102	4543.6219

*Number of census tracts for which the variable could be calculated.

TABLE 3.

VARIMAX ROTATED COMPONENT PATTERN OF FACTOR LOADINGS

ROW	VARIABLE NAME	WEALTH	SUBURBAN	GROUP	EDUCATED
	FEMFAMCH	-58*	37	4	-1
	SINGLHU	50*	40	-46	48
	HOUSE39	-54*	2	18	-43
	AIRCOND	-52*	14	29	-6
	POVERTY	-89*	-9	9	-27
	MALUNEM	-57*	-4	-21	-19
	FEMFAMPV	-78*	2	5	-23
	FAMCHPOV	-86*	-18	4	-30
	PAINCOM	-82*	-26	3	-31
	YOUNG	-50*	-10	-37	-19
	WHITE	75*	8	-20	-3
	FAMILY	83*	37	-12	25
	DEVSEP	-79*	-32	30	-13
	RENTVAC	-76*	-10	16	-26
	RENT	31	40	2	58*
	BATHS	27	30	13	71*
	HEATING	44	3	-2	56*
	FOREIGN	-19	-19	22	-65*
	HSEDUC	-40	-35	-20	-75*
	COLLEGE	22	19	48	71*
	PROFESS	32	7	11	77*
	BLUECOL	-30	-5	-9	-83*
	ENG517	22	6	-33	60*
	ENG18PL	17	15	-3	78*
	SELFEMP	13	-21	-5	63*
	GOVWORK	4	-17	14	55*
	DENSITY	-46	-14	20	-54*
	FAMCHILD	-10	71*	3	0
	HU4PLUS	3	-87*	20	-6
	FEMLAB	22	68*	-15	-15
	NODISAB	29	80*	11	21
	TWOWORK	44	73*	-23	-1
	AGED65	4	-89*	-2	-20
	FEMPER	0	-63*	-31	-15
	SINGLE	-10	-90*	26	-8
	PERSHU	23	69*	-18	19
	ROMSHU	28	70*	-40	34
	OCCHU75	22	19	-76*	-8
	HUOCC80	-38	-12	71*	-3
	NATIVE	7	0	-60*	-47
	DRIVE1	40	38	-64*	29
	DRIVE15	-8	-5	64*	-14
	GROUP	21	-11	74*	10
	MARIED	20	-5	-80*	-1
	RENTER	-48	-46	53*	-38
	FEMFAM	-29	-1	9	-19
	FERTLTY	-43	39	-35	-14
	OCCHU59	29	22	-42	-23
	INCOME	58	44	-6	52
	PREVDISB	-25	-42	-34	-37
	TRANDISB	-5	0	34	-18
	FEMLABCH	25	19	0	-31
	CARSTWO	55	51	-35	45
	POV65PL	-34	1	3	-17

TABLE 3.

VARIMAX ROTATED COMPONENT PATTERN OF FACTOR LOADINGS

ROW	VARIABLE NAME	WEALTH	SUBURBAN	GROUP	EDUCATED
	PRIELEM	-6	-9	7	3
	YOUTH	-23	59	52	-3
	BLACK	-45	-21	30	25
	VACBORD	-14	3	15	10
	SALVAC	-1	6	-1	26
	VALUEHU	42	29	-4	49

*Variable employed in calculation of scale score.

TABLE 4.

CENSUS TRACT FACTOR SCORES AND CLUSTER MEANS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	WEALTH	SUBURBAN	GROUP	EDUCATION
EAST PROVIDENCE	101.02	1	60.32	47.10	43.34	55.53
EAST PROVIDENCE	107.01	1	58.99	54.94	39.92	59.41
LINCOLN	116.00	1	62.64	57.02	41.47	61.74
LINCOLN	117.02	1	57.06	53.69	41.98	56.64
NORTH PROVIDENCE	119.00	1	57.54	53.06	44.96	55.69
NORTH PROVIDENCE	120.00	1	61.22	51.63	43.91	56.00
CRANSTON	134.00	1	54.04	52.22	47.75	58.85
CRANSTON	138.00	1	56.54	48.51	44.43	56.08
CRANSTON	139.00	1	60.93	46.93	43.89	59.35
CRANSTON	143.00	1	63.32	52.51	42.83	61.94
CRANSTON	144.00	1	63.87	52.15	42.13	63.56
CRANSTON	145.00	1	58.63	55.00	41.27	57.72
PAWTUCKET	169.00	1	57.75	48.77	42.35	59.18
WARWICK	212.00	1	58.97	48.22	42.61	54.09
WARWICK	213.00	1	60.01	49.32	37.42	59.86
WARWICK	214.01	1	59.08	54.60	39.69	55.07
WARWICK	214.02	1	59.12	53.74	38.81	54.5[illegible]
WARWICK	221.00	1	61.47	52.90	41.37	57.86
WARWICK	224.00	1	56.91	57.47	44.84	59.67
BARRINGTON	301.00	1	60.79	57.31	48.81	60.41
BARRINGTON	302.00	1	58.28	53.99	41.22	57.08
PORTSMOUTH	401.01	1	53.20	53.17	45.78	57.50
PORTSMOUTH	401.03	1	56.87	57.90	51.74	59.1[illegible]
TIVERTON	416.02	1	58.73	55.64	43.87	54.83
NORTH KINGSTOWN	501.01	1	54.64	57.71	47.66	57.94
EXETER	505.00	1	53.05	57.99	50.36	57.20
RICHMOND	506.00	1	51.45	60.46	44.30	57.70
WESTERLY	509.00	1	56.37	59.26	47.61	54.78
CHARLESTOWN	511.00	1	52.03	52.54	44.25	58.64
AVERAGE			58.06	53.65	43.80	57.86
PROVIDENCE	34.00	2	59.31	50.10	49.96	75.72
EAST GREENWICH	209.02	2	62.41	61.01	44.62	69.25
WARWICK	216.00	2	57.90	53.06	39.19	70.27
WARWICK	222.01	2	58.49	54.31	46.43	65.07
BARRINGTON	303.00	2	58.23	60.81	41.16	65.49
BARRINGTON	304.00	2	61.98	57.44	44.10	71.01
PORTSMOUTH	401.02	2	58.98	55.26	48.70	64.72
MIDDLETOWN	403.02	2	55.33	52.01	51.90	63.25
MIDDLETOWN	404.00	2	54.76	51.91	50.36	62.56
JAMESTOWN	413.00	2	54.82	51.43	45.47	66.28
LITTLE COMPTON	414.00	2	53.74	51.42	47.16	64.80
NORTH KINGSTOWN	501.02	2	52.94	52.69	49.87	64.29
NORTH KINGSTOWN	503.00	2	53.58	52.39	49.84	63.09
NORTH KINGSTOWN	504.00	2	54.19	57.76	46.35	63.53
WESTERLY	510.00	2	54.67	52.25	51.57	64.94
SOUTH KINGSTOWN	513.00	2	51.94	56.28	49.37	66.21
NARRAGANSETT	515.00	2	53.83	55.19	55.17	64.30

TABLE 4.

CENSUS TRACT FACTOR SCORES AND CLUSTER MEANS, RHODE ISLAND - 1990

TOWN	TRACT	CLUSTER	WEALTH	SUBURBAN	GROUP	EDUCATION
AVERAGE			56.29	54.43	47.78	66.10
EAST PROVIDENCE	107.02	3	57.76	58.14	40.66	53.04
CUMBERLAND	113.02	3	63.27	63.72	38.09	49.61
CUMBERLAND	114.01	3	61.49	60.56	39.53	50.55
CUMBERLAND	114.02	3	62.46	60.38	40.76	51.70
CUMBERLAND	114.03	3	59.13	57.38	41.15	50.15
JOHNSTON	122.00	3	57.53	58.19	38.78	57.51
JOHNSTON	123.00	3	52.73	55.73	40.83	53.57
JOHNSTON	124.01	3	56.54	56.36	42.16	50.64
JOHNSTON	124.02	3	56.79	53.54	37.33	50.97
SMITHFIELD	127.00	3	59.76	59.85	40.79	59.46
NORTH SMITHFIELD	128.01	3	55.63	54.62	41.47	53.26
NORTH SMITHFIELD	128.02	3	59.78	58.80	40.69	51.66
GLOCESTER	131.00	3	53.10	57.97	37.92	55.06
SCITUATE	132.00	3	57.01	57.47	37.50	53.00
FOSTER	133.00	3	53.18	58.04	41.24	55.72
CRANSTON	146.00	3	56.99	59.25	37.74	58.30
CRANSTON	148.00	3	55.57	57.42	37.22	50.56
COVENTRY	206.03	3	56.89	61.09	40.66	50.76
COVENTRY	207.00	3	56.08	59.98	40.57	55.64
WEST GREENWICH	208.00	3	51.97	58.89	41.57	54.09
WARWICK	215.02	3	50.93	57.55	41.50	51.95
WARWICK	219.01	3	56.99	57.60	40.17	50.99
WARWICK	219.02	3	56.44	56.96	42.97	51.75
WARWICK	219.03	3	60.39	57.61	38.95	52.69
TIVERTON	417.00	3	53.01	55.79	42.89	55.26
AVERAGE			56.86	58.12	40.13	53.90
EAST PROVIDENCE	101.01	4	55.98	53.98	44.85	52.33
CUMBERLAND	113.01	4	54.92	57.82	42.62	47.16
LINCOLN	117.01	4	59.56	50.09	41.53	50.99
NORTH PROVIDENCE	118.00	4	55.11	52.61	44.25	49.98
NORTH PROVIDENCE	121.02	4	55.31	49.56	43.44	48.74
JOHNSTON	125.00	4	53.19	50.58	43.09	52.14
BURRILLVILLE	130.00	4	53.92	58.56	44.73	52.71
CRANSTON	136.00	4	53.67	56.82	45.52	49.63
CRANSTON	137.01	4	53.74	50.71	45.41	48.83
CRANSTON	140.00	4	57.56	48.21	42.53	50.74
PAWTUCKET	157.00	4	58.70	53.74	42.58	46.04
PAWTUCKET	158.00	4	56.95	49.84	42.34	45.22
PAWTUCKET	163.00	4	55.35	51.26	43.41	47.27
PAWTUCKET	165.00	4	53.62	52.16	46.63	52.35
PAWTUCKET	168.00	4	58.61	52.14	44.16	49.10
PAWTUCKET	170.00	4	59.87	46.98	45.19	49.63
WOONSOCKET	177.00	4	56.52	53.27	43.66	44.22
WEST WARWICK	201.00	4	51.40	58.16	47.37	51.95
WEST WARWICK	202.00	4	49.88	53.17	48.90	47.27

TABLE 4.

CENSUS TRACT FACTOR SCORES AND CLUSTER MEANS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	WEALTH	SUBURBAN	GROUP	EDUCATION
WEST WARWICK	204.00	4	48.47	57.40	47.41	44.11
WEST WARWICK	205.00	4	51.82	50.46	45.25	51.35
COVENTRY	206.01	4	55.51	59.61	43.59	43.57
COVENTRY	206.02	4	52.18	55.97	43.60	43.96
WARWICK	210.00	4	54.52	51.03	43.12	53.13
WARWICK	211.00	4	55.73	54.90	46.52	50.42
WARWICK	215.01	4	46.61	54.26	42.86	50.04
WARWICK	217.00	4	49.30	54.33	40.54	49.00
WARWICK	218.00	4	56.60	52.09	45.29	54.13
WARREN	306.01	4	56.04	51.44	45.21	52.21
WARREN	306.02	4	57.21	51.00	47.32	50.10
BRISTOL	309.01	4	54.81	64.53	45.71	45.40
BRISTOL	309.02	4	57.20	51.21	45.74	50.15
HOPKINTON	507.00	4	51.82	57.17	46.20	53.02
WESTERLY	508.02	4	56.43	52.03	46.86	53.25
AVERAGE			54.65	53.44	44.63	49.74
PROVIDENCE	15.00	5	47.10	49.81	45.22	47.50
PROVIDENCE	21.00	5	51.28	48.11	45.89	46.64
PROVIDENCE	29.00	5	48.65	44.53	46.64	42.23
EAST PROVIDENCE	103.00	5	49.13	44.84	45.46	39.53
EAST PROVIDENCE	104.00	5	51.33	49.60	49.57	35.59
EAST PROVIDENCE	105.01	5	52.83	48.77	46.16	45.63
EAST PROVIDENCE	106.00	5	49.95	48.90	45.10	49.14
CUMBERLAND	112.00	5	52.20	50.18	46.03	34.72
LINCOLN	115.00	5	53.65	48.98	47.21	44.57
CRANSTON	141.00	5	47.30	44.61	47.54	47.02
CRANSTON	147.00	5	47.02	43.30	45.36	49.13
PAWTUCKET	150.00	5	50.64	50.67	45.74	40.74
PAWTUCKET	155.00	5	51.49	53.56	45.41	35.78
PAWTUCKET	156.00	5	49.38	49.69	47.27	39.19
PAWTUCKET	159.00	5	53.33	51.88	48.34	40.95
WOONSOCKET	175.00	5	53.07	50.28	46.11	43.95
WOONSOCKET	184.00	5	51.94	49.69	46.75	44.68
WOONSOCKET	185.00	5	52.93	55.12	46.57	41.44
TIVERTON	416.01	5	56.08	50.11	48.29	43.62
AVERAGE			51.02	49.09	46.59	42.64
PROVIDENCE	37.00	6	45.93	48.57	66.44	33.47
CENTRAL FALLS	108.00	6	39.59	40.93	55.55	31.55
CENTRAL FALLS	109.00	6	44.30	45.91	56.70	27.54
CENTRAL FALLS	110.00	6	41.25	43.45	54.32	28.03
CENTRAL FALLS	111.00	6	43.46	50.63	54.35	31.19
PAWTUCKET	151.00	6	35.28	49.23	57.00	24.94
PAWTUCKET	153.00	6	35.77	46.39	55.90	37.34
PAWTUCKET	154.00	6	41.50	50.13	56.82	30.00
PAWTUCKET	161.00	6	38.13	47.94	53.50	32.87

TABLE 4.

CENSUS TRACT FACTOR SCORES AND CLUSTER MEANS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	WEALTH	SUBURBAN	GROUP	EDUCATION
PAWTUCKET	164.00	6	39.66	49.05	56.46	30.84
WCONSOCKET	176.00	6	32.78	50.92	52.99	35.56
WCONSOCKET	178.00	6	40.53	45.05	52.78	37.53
WCONSOCKET	179.00	6	41.79	39.68	53.94	35.09
WCONSOCKET	181.00	6	36.33	44.05	52.23	34.38
WCONSOCKET	183.00	6	40.29	44.42	51.30	34.97
BRISTOL	307.00	6	44.90	50.73	54.72	29.19
AVERAGE			40.09	46.69	55.31	32.16
PROVIDENCE	1.00	7	41.80	53.85	54.59	39.63
PROVIDENCE	16.00	7	42.48	47.81	50.36	42.91
PROVIDENCE	17.00	7	44.98	46.67	47.95	41.37
PROVIDENCE	20.00	7	38.32	50.45	48.48	41.47
PROVIDENCE	22.00	7	38.35	44.39	54.27	44.30
PROVIDENCE	27.00	7	41.01	49.30	59.31	49.07
PROVIDENCE	28.00	7	44.24	46.82	52.09	45.26
EAST PROVIDENCE	102.00	7	49.36	52.85	53.26	35.41
PAWTUCKET	160.00	7	42.03	44.73	55.80	47.04
PAWTUCKET	166.00	7	46.38	49.77	55.69	40.71
PAWTUCKET	167.00	7	44.38	49.23	55.87	39.50
PAWTUCKET	171.00	7	44.46	51.54	49.93	39.35
WCONSOCKET	174.00	7	36.09	46.63	52.24	41.87
WCONSOCKET	182.00	7	45.39	48.02	53.09	34.64
WEST WARWICK	203.00	7	42.77	43.33	53.03	43.14
WARREN	305.00	7	44.86	49.16	56.16	35.83
WESTERLY	508.01	7	47.09	45.48	52.04	46.21
AVERAGE			43.23	48.24	53.18	41.57
PROVIDENCE	23.00	8	55.42	48.28	51.85	54.19
PROVIDENCE	24.00	8	61.58	48.98	56.34	55.81
PROVIDENCE	33.00	8	52.89	47.82	57.11	55.21
EAST PROVIDENCE	105.02	8	56.24	50.34	50.46	54.64
NORTH PROVIDENCE	121.01	8	52.33	45.72	47.11	50.36
SMITHFIELD	126.00	8	57.66	53.96	55.57	53.09
BURRILLVILLE	129.00	8	48.41	50.12	46.47	51.80
CRANSTON	135.00	8	48.32	49.23	50.77	51.69
CRANSTON	137.02	8	52.60	48.43	47.00	52.85
CRANSTON	142.00	8	59.97	54.27	53.72	58.65
WOONSOCKET	173.00	8	47.95	51.52	49.88	50.07
EAST GREENWICH	209.01	8	46.36	48.34	51.39	55.09
WARWICK	220.00	8	48.08	50.06	46.50	54.30
WARWICK	222.02	8	61.79	37.49	51.82	59.88
WARWICK	223.00	8	54.27	42.55	50.52	53.47
BRISTOL	308.00	8	55.62	53.32	58.25	44.52
SOUTH KINGSTOWN	512.00	8	48.35	52.26	52.37	57.91
AVERAGE			53.43	48.98	51.60	53.85

TABLE 4.

CENSUS TRACT FACTOR SCORES AND CLUSTER MEANS, RHODE ISLAND - 1990

TOWN	TRACT	CLUSTER	WEALTH	SUBURBAN	GROUP	EDUCATION
PROVIDENCE	2.00	9	27.55	48.42	60.09	41.22
PROVIDENCE	3.00	9	25.59	44.36	62.61	35.77
PROVIDENCE	9.00	9	33.72	31.31	52.78	33.07
PROVIDENCE	10.00	9	31.82	35.36	50.03	40.05
PROVIDENCE	11.00	9	33.44	42.09	59.38	37.87
PROVIDENCE	13.00	9	30.25	45.42	58.79	34.27
PROVIDENCE	14.00	9	24.55	42.46	61.03	34.80
PROVIDENCE	18.00	9	34.59	39.71	51.58	40.14
PROVIDENCE	19.00	9	30.49	39.78	56.20	36.06
PROVIDENCE	25.00	9	30.57	45.75	61.33	39.80
PROVIDENCE	26.00	9	32.95	38.26	59.25	36.29
WOONSOCKET	172.00	9	31.46	35.84	58.95	35.83
NEWPORT	405.00	9	25.22	48.39	58.48	49.16
AVERAGE			30.17	41.32	57.73	38.03
PROVIDENCE	36.00	10	55.98	43.84	99.06	60.08
MIDDLETOWN	402.00	10	56.72	69.83	101.52	63.06
NEWPORT	412.00	10	47.11	60.44	97.87	66.59
SOUTH KINGSTOWN	514.00	10	54.80	41.98	98.01	61.94
AVERAGE			53.65	54.02	99.12	62.92
PROVIDENCE	31.00	11	36.86	47.40	68.33	54.61
PROVIDENCE	32.00	11	37.36	53.29	57.41	55.91
PROVIDENCE	35.00	11	49.48	41.32	66.74	54.95
MIDDLETOWN	403.01	11	47.33	55.91	61.45	58.89
NEWPORT	406.00	11	43.82	50.05	58.98	55.58
NEWPORT	407.00	11	49.25	49.87	59.01	63.10
NEWPORT	408.00	11	42.99	44.79	62.35	58.94
NEWPORT	409.00	11	53.67	50.05	58.48	62.43
NEWPORT	410.00	11	40.32	46.77	53.31	57.37
NEWPORT	411.00	11	48.52	48.63	60.41	58.74
NEW SHOREHAM	415.00	11	49.90	46.71	57.76	66.67
NORTH KINGSTOWN	502.00	11	48.20	65.95	67.06	59.96
AVERAGE			45.64	50.06	60.94	58.93
PROVIDENCE	4.00	12	16.49	48.67	62.75	34.92
PROVIDENCE	5.00	12	10.60	44.57	60.24	41.04
PROVIDENCE	6.00	12	13.50	50.17	50.34	40.68
PROVIDENCE	7.00	12	18.00	29.17	71.80	40.93
PROVIDENCE	12.00	12	19.22	35.92	58.63	40.78
AVERAGE			15.56	41.70	60.75	39.67

TABLE 4.

CENSUS TRACT FACTOR SCORES AND CLUSTER MEANS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	WEALTH	SUBURBAN	GROUP	EDUCATION
PAWTUCKET	149.00	13	49.13	-3.15	58.67	39.52
PAWTUCKET	152.00	13	37.42	16.01	60.26	30.07
WOONSOCKET	180.00	13	41.38	12.66	49.27	34.17
AVERAGE			42.64	8.51	56.07	34.59
PROVIDENCE	8.00	14	59.75	5.45	75.87	54.84
PROVIDENCE	30.00	14	55.63	-26.96	69.73	52.67
AVERAGE			57.69	-10.76	72.80	53.76

TABLE 5.
CENSUS TRACT FACTOR SCORES AND TOWN MEANS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	WEALTH	SUBURBAN	GROUP	EDUCATION
BARRINGTON	301.00	1	60.79	57.31	48.81	60.41
BARRINGTON	302.00	1	58.28	53.99	41.22	57.08
BARRINGTON	303.00	2	58.23	60.81	41.16	65.49
BARRINGTON	304.00	2	61.98	57.44	44.10	71.01
AVERAGE			59.82	57.39	43.82	63.50
BRISTOL	309.01	4	54.81	64.53	45.71	45.40
BRISTOL	309.02	4	57.20	51.21	45.74	50.15
BRISTOL	307.00	6	44.90	50.73	54.72	29.19
BRISTOL	308.00	8	55.62	53.32	58.25	44.52
AVERAGE			53.13	54.95	51.10	42.31
BURRILLVILLE	130.00	4	53.92	58.56	44.73	52.71
BURRILLVILLE	129.00	8	48.41	50.12	46.47	51.80
AVERAGE			51.17	54.34	45.60	52.25
CENTRAL FALLS	108.00	6	39.59	40.93	55.55	31.55
CENTRAL FALLS	109.00	6	44.30	45.91	56.73	27.54
CENTRAL FALLS	110.00	6	41.25	43.45	54.32	28.03
CENTRAL FALLS	111.00	6	43.46	50.63	54.35	31.19
AVERAGE			42.15	45.23	55.23	29.58
CHARLESTOWN	511.00	1	52.03	52.54	44.25	58.64
AVERAGE			52.03	52.54	44.25	58.64
COVENTRY	206.03	3	56.89	61.09	40.66	50.76
COVENTRY	207.00	3	56.08	59.98	40.57	56.54
COVENTRY	206.01	4	55.51	59.61	43.59	47.67
COVENTRY	206.02	4	52.18	55.97	43.60	49.96
AVERAGE			55.17	59.16	42.11	51.76
CRANSTON	134.00	1	54.04	52.22	47.75	58.65
CRANSTON	138.00	1	56.54	48.51	44.43	56.08
CRANSTON	139.00	1	60.93	46.93	43.38	59.35
CRANSTON	143.00	1	63.32	52.51	42.83	61.44
CRANSTON	144.00	1	63.87	52.15	42.13	63.56
CRANSTON	145.00	1	58.63	55.00	41.27	57.72
CRANSTON	146.00	3	56.99	59.25	37.74	58.30
CRANSTON	148.00	3	55.57	57.42	37.22	50.56
CRANSTON	136.00	4	53.67	56.82	45.52	49.63

TABLE 5.
CENSUS TRACT FACTOR SCORES AND TOWN MEANS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	WEALTH	SUBURBAN	GROUP	EDUCATION
CRANSTON	137.01	4	53.74	50.71	45.41	48.83
CRANSTON	140.00	4	57.56	48.21	42.53	50.74
CRANSTON	141.00	5	47.30	44.61	47.54	47.02
CRANSTON	147.00	5	47.02	43.30	45.36	48.13
CRANSTON	135.00	8	48.82	49.23	50.77	51.69
CRANSTON	137.02	8	52.60	48.43	47.00	52.85
CRANSTON	142.00	8	59.97	54.27	53.72	58.65
AVERAGE			55.66	51.22	44.69	54.62
CUMBERLAND	113.02	3	63.27	63.72	38.09	48.61
CUMBERLAND	114.01	3	61.48	60.56	39.53	53.55
CUMBERLAND	114.02	3	62.46	60.38	40.76	57.70
CUMBERLAND	114.03	3	59.13	57.38	41.15	50.15
CUMBERLAND	113.01	4	54.92	57.82	42.62	47.16
CUMBERLAND	112.00	5	52.20	50.18	46.03	34.72
AVERAGE			58.91	58.34	41.36	49.43
EAST GREENWICH	209.02	2	62.41	61.01	44.62	63.25
EAST GREENWICH	209.01	8	46.36	48.34	51.39	56.09
AVERAGE			54.38	54.67	48.00	62.17
EAST PROVIDENCE	101.02	1	60.32	47.10	43.84	55.53
EAST PROVIDENCE	107.01	1	58.99	54.94	39.92	59.41
EAST PROVIDENCE	107.02	3	57.76	58.14	40.66	53.04
EAST PROVIDENCE	101.01	4	55.98	53.98	44.85	52.33
EAST PROVIDENCE	103.00	5	49.13	44.84	45.46	39.53
EAST PROVIDENCE	104.00	5	51.33	49.60	49.57	35.59
EAST PROVIDENCE	105.01	5	52.33	48.77	46.16	45.63
EAST PROVIDENCE	106.00	5	49.95	48.90	45.10	48.14
EAST PROVIDENCE	102.00	7	49.36	52.85	53.26	35.41
EAST PROVIDENCE	105.02	8	56.24	50.34	50.46	54.64
AVERAGE			54.19	50.95	45.93	47.93
EXETER	505.00	1	53.05	57.99	50.36	57.20
AVERAGE			53.05	57.99	50.36	57.20
FOSTER	133.00	3	53.18	58.04	41.24	55.72
AVERAGE			53.18	58.04	41.24	55.72
GLOCESTER	131.00	3	53.10	57.97	37.92	55.06

TABLE 5.
CENSUS TRACT FACTOR SCORES AND TOWN MEANS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	WEALTH	SUBURBAN	GROUP	EDUCATION
AVERAGE			53.10	57.97	37.92	55.06
HOPKINTON	507.00	4	51.92	57.17	46.20	53.02
AVERAGE			51.82	57.17	46.20	53.02
JAMESTOWN	413.00	2	54.82	51.43	45.47	66.28
AVERAGE			54.82	51.43	45.47	66.28
JOHNSTON	122.00	3	57.53	58.19	38.78	57.51
JOHNSTON	123.00	3	52.73	55.73	40.83	53.57
JOHNSTON	124.01	3	56.54	56.36	42.16	50.64
JOHNSTON	124.02	3	56.79	53.54	37.39	50.97
JOHNSTON	125.00	4	53.19	50.58	43.09	52.14
AVERAGE			55.35	54.88	40.45	52.96
LINCOLN	116.00	1	62.64	57.02	41.47	61.74
LINCOLN	117.02	1	57.06	53.69	41.98	56.64
LINCOLN	117.01	4	59.56	50.09	41.53	50.89
LINCOLN	115.00	5	53.65	48.98	47.21	44.57
AVERAGE			58.23	52.44	43.05	53.46
LITTLE COMPTON	414.00	2	53.74	51.42	47.16	64.30
AVERAGE			53.74	51.42	47.16	64.30
MIDDLETOWN	403.02	2	55.33	52.01	51.90	63.25
MIDDLETOWN	404.00	2	54.76	51.91	50.36	62.56
MIDDLETOWN	402.00	10	56.72	69.83	101.52	63.06
MIDDLETOWN	403.01	11	47.33	55.91	61.45	58.39
AVERAGE			53.53	57.42	66.30	61.94
NARRAGANSETT	515.00	2	53.83	55.19	56.17	64.30
AVERAGE			53.83	55.19	56.17	64.30
NEW SHOREHAM	415.00	11	49.90	46.71	57.76	66.67
AVERAGE			49.90	46.71	57.76	66.67

TABLE 5.
CENSUS TRACT FACTOR SCORES AND TOWN MEANS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	WEALTH	SUBURBAN	GROUP	EDUCATION
NEWPORT	405.00	9	25.22	43.39	58.48	49.16
NEWPORT	412.00	10	47.11	60.44	97.87	66.59
NEWPORT	406.00	11	43.82	50.05	58.98	55.58
NEWPORT	407.00	11	49.25	49.87	59.01	63.10
NEWPORT	408.00	11	42.99	44.79	62.35	58.94
NEWPORT	409.00	11	53.67	50.05	58.48	62.43
NEWPORT	410.00	11	40.32	46.77	53.31	57.37
NEWPORT	411.00	11	48.52	48.63	60.41	58.74
AVERAGE			43.86	49.87	63.61	59.99
NORTH KINGSTOWN	501.01	1	54.64	57.71	47.66	57.94
NORTH KINGSTOWN	501.02	2	52.94	52.69	49.87	64.29
NORTH KINGSTOWN	503.00	2	53.58	52.39	49.84	63.03
NORTH KINGSTOWN	504.00	2	54.19	57.76	46.35	63.53
NORTH KINGSTOWN	502.00	11	48.20	65.95	67.06	59.96
AVERAGE			52.71	57.30	52.16	61.76
NORTH PROVIDENCE	119.00	1	57.54	53.06	44.96	55.69
NORTH PROVIDENCE	120.00	1	61.22	51.63	43.91	56.00
NORTH PROVIDENCE	118.00	4	55.11	52.61	44.25	49.98
NORTH PROVIDENCE	121.02	4	55.31	49.56	43.44	48.74
NORTH PROVIDENCE	121.01	8	52.33	45.72	47.11	50.36
AVERAGE			56.30	50.52	44.73	52.15
NORTH SMITHFIELD	128.01	3	55.63	54.62	41.47	53.26
NORTH SMITHFIELD	128.02	3	59.78	58.80	40.69	51.66
AVERAGE			57.70	56.71	41.08	52.46
PAWTUCKET	169.00	1	57.75	48.77	42.35	59.18
PAWTUCKET	157.00	4	58.70	53.74	42.58	46.04
PAWTUCKET	158.00	4	56.95	49.84	42.34	45.22
PAWTUCKET	163.00	4	55.35	51.26	43.41	47.27
PAWTUCKET	165.00	4	53.62	52.16	46.63	52.35
PAWTUCKET	168.00	4	58.61	52.14	44.16	49.10
PAWTUCKET	170.00	4	59.87	46.98	45.19	49.63
PAWTUCKET	150.00	5	50.64	50.67	45.74	40.74
PAWTUCKET	155.00	5	51.49	53.56	45.41	35.78
PAWTUCKET	156.00	5	49.38	49.69	47.27	39.19
PAWTUCKET	159.00	5	53.33	51.88	48.84	40.95
PAWTUCKET	151.00	6	35.28	49.23	57.00	24.94
PAWTUCKET	153.00	6	35.77	46.39	55.90	37.34
PAWTUCKET	154.00	6	41.50	50.13	56.82	30.00

TABLE 5.
CENSUS TRACT FACTOR SCORES AND TOWN MEANS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	WEALTH	SUBURBAN	GROUP	EDUCATION
PAWTUCKET	161.00	6	38.13	47.94	53.50	32.87
PAWTUCKET	164.00	6	39.66	49.05	56.46	30.84
PAWTUCKET	160.00	7	42.03	44.73	55.80	47.04
PAWTUCKET	166.00	7	46.38	49.77	55.69	40.71
PAWTUCKET	167.00	7	44.38	49.23	55.87	39.50
PAWTUCKET	171.00	7	44.46	51.54	49.83	39.35
PAWTUCKET	149.00	13	49.13	-3.15	58.67	39.52
PAWTUCKET	152.00	13	37.42	16.01	60.25	30.07
AVERAGE			48.17	45.98	50.44	40.80
PORTSMOUTH	401.01	1	53.20	53.17	45.78	57.50
PORTSMOUTH	401.03	1	56.87	57.90	51.74	59.10
PORTSMOUTH	401.02	2	58.88	55.26	48.70	64.72
AVERAGE			56.32	55.44	48.74	60.44
PROVIDENCE	34.00	2	59.31	50.10	49.96	75.72
PROVIDENCE	15.00	5	47.10	49.81	45.22	47.50
PROVIDENCE	21.00	5	51.28	48.11	45.89	46.64
PROVIDENCE	29.00	5	48.65	44.53	46.64	42.28
PROVIDENCE	37.00	6	45.93	48.57	66.44	33.47
PROVIDENCE	1.00	7	41.80	53.65	54.59	39.63
PROVIDENCE	16.00	7	42.48	47.81	59.36	42.91
PROVIDENCE	17.00	7	44.98	46.67	47.95	41.37
PROVIDENCE	20.00	7	38.32	50.45	48.48	41.47
PROVIDENCE	22.00	7	38.35	44.39	54.27	44.30
PROVIDENCE	27.00	7	41.01	49.30	59.31	48.07
PROVIDENCE	28.00	7	44.24	46.82	52.09	45.26
PROVIDENCE	23.00	8	55.42	48.28	51.85	54.19
PROVIDENCE	24.00	8	61.58	48.98	56.34	55.31
PROVIDENCE	33.00	8	52.89	47.82	57.11	55.21
PROVIDENCE	2.00	9	27.55	48.42	60.09	41.22
PROVIDENCE	3.00	9	25.59	44.36	62.61	35.77
PROVIDENCE	9.00	9	33.72	31.31	52.78	33.07
PROVIDENCE	10.00	9	31.82	35.36	50.03	40.05
PROVIDENCE	11.00	9	33.44	42.09	59.38	37.37
PROVIDENCE	13.00	9	30.25	45.42	58.79	34.27
PROVIDENCE	14.00	9	24.55	42.46	61.03	34.80
PROVIDENCE	18.00	9	34.59	39.71	51.58	40.14
PROVIDENCE	19.00	9	30.49	39.78	56.20	36.06
PROVIDENCE	25.00	9	30.57	45.75	61.33	39.30
PROVIDENCE	26.00	9	32.95	38.26	59.25	36.29
PROVIDENCE	36.00	10	55.98	43.84	99.06	60.08
PROVIDENCE	31.00	11	36.86	47.40	68.33	54.61
PROVIDENCE	32.00	11	37.36	53.29	57.41	55.91
PROVIDENCE	35.00	11	49.48	41.32	66.74	54.95
PROVIDENCE	4.00	12	16.49	43.67	62.75	34.92
PROVIDENCE	5.00	12	10.60	44.57	60.24	41.04
PROVIDENCE	6.00	12	13.50	50.17	50.34	40.68

TABLE 5.
CENSUS TRACT FACTOR SCORES AND TOWN MEANS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	WEALTH	SUBURBAN	GROUP	EDUCATION
PROVIDENCE	7.00	12	18.00	29.17	71.80	40.93
PROVIDENCE	12.00	12	19.22	35.92	58.63	40.78
PROVIDENCE	8.00	14	59.75	5.45	75.87	54.84
PROVIDENCE	30.00	14	55.63	-26.96	69.73	52.67
AVERAGE			38.42	41.93	58.39	44.72
RICHMOND	506.00	1	51.45	60.46	44.30	57.70
AVERAGE			51.45	60.46	44.30	57.70
SCITUATE	132.00	3	57.01	57.47	37.50	58.00
AVERAGE			57.01	57.47	37.50	58.00
SMITHFIELD	127.00	3	59.76	59.85	40.79	59.46
SMITHFIELD	126.00	8	57.66	53.96	55.57	53.99
AVERAGE			58.71	56.90	48.18	56.72
SOUTH KINGSTOWN	513.00	2	51.94	56.28	49.37	66.21
SOUTH KINGSTOWN	512.00	8	48.35	52.26	52.37	57.91
SOUTH KINGSTOWN	514.00	10	54.80	41.98	98.01	61.94
AVERAGE			51.70	50.18	66.58	62.02
TIVERTON	416.02	1	58.73	55.64	43.87	54.83
TIVERTON	417.00	3	53.01	55.79	42.89	55.86
TIVERTON	416.01	5	56.08	50.11	48.29	43.62
AVERAGE			55.94	53.85	45.01	51.44
WARREN	306.01	4	56.04	51.44	45.21	52.21
WARREN	306.02	4	57.21	51.00	47.32	50.10
WARREN	305.00	7	44.86	49.16	56.16	35.83
AVERAGE			52.70	50.53	49.56	46.05
WARWICK	212.00	1	58.97	48.22	42.61	54.09
WARWICK	213.00	1	60.01	49.32	37.42	59.86
WARWICK	214.01	1	59.08	54.60	38.69	55.07
WARWICK	214.02	1	59.12	53.74	38.81	54.53
WARWICK	221.00	1	61.47	52.90	41.37	57.86
WARWICK	224.00	1	56.91	57.47	44.84	59.67
WARWICK	216.00	2	57.90	53.06	39.18	70.27

TABLE 5.
CENSUS TRACT FACTOR SCORES AND TOWN MEANS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	WEALTH	SUBURBAN	GROUP	EDUCATION
WARWICK	222.01	2	58.49	54.31	46.43	65.07
WARWICK	215.02	3	50.93	57.55	41.50	51.95
WARWICK	219.01	3	56.99	57.60	40.17	50.99
WARWICK	219.02	3	56.44	56.96	42.97	51.75
WARWICK	219.03	3	60.39	57.61	38.95	52.68
WARWICK	210.00	4	54.52	51.03	43.12	53.19
WARWICK	211.00	4	55.73	54.90	46.52	50.42
WARWICK	215.01	4	46.61	54.26	42.86	50.04
WARWICK	217.00	4	49.30	54.33	40.54	48.00
WARWICK	218.00	4	56.60	52.09	45.28	54.13
WARWICK	220.00	8	48.08	50.06	46.50	54.39
WARWICK	222.02	8	61.79	37.49	51.82	54.88
WARWICK	223.00	8	54.27	42.55	50.52	53.47
AVERAGE			56.18	52.50	43.00	55.36
WEST GREENWICH	208.00	3	51.97	58.89	41.57	54.04
AVERAGE			51.97	58.89	41.57	54.04
WEST WARWICK	201.00	4	51.40	58.16	47.37	51.95
WEST WARWICK	202.00	4	49.38	53.17	48.90	47.27
WEST WARWICK	204.00	4	48.47	57.40	47.41	44.11
WEST WARWICK	205.00	4	51.82	50.46	45.25	51.35
WEST WARWICK	203.00	7	42.77	43.33	53.03	43.14
AVERAGE			48.87	52.50	48.39	47.57
WESTERLY	509.00	1	56.37	59.26	47.61	54.78
WESTERLY	510.00	2	54.67	52.25	51.57	64.44
WESTERLY	508.02	4	56.43	52.03	46.86	53.25
WESTERLY	508.01	7	47.09	45.48	52.04	46.21
AVERAGE			53.64	52.26	49.52	54.80
WOONSOCKET	177.00	4	56.52	53.27	43.65	44.22
WOONSOCKET	175.00	5	53.07	50.28	46.11	43.95
WOONSOCKET	184.00	5	51.94	49.69	46.75	44.63
WOONSOCKET	185.00	5	52.93	55.12	46.57	41.44
WOONSOCKET	176.00	6	32.78	50.92	52.99	35.56
WOONSOCKET	178.00	6	40.53	45.05	52.78	37.53
WOONSOCKET	179.00	6	41.79	39.63	53.94	35.09
WOONSOCKET	181.00	6	36.33	44.05	52.23	34.38
WOONSOCKET	183.00	6	40.29	44.42	51.30	34.97
WOONSOCKET	174.00	7	36.99	46.63	52.24	41.87
WOONSOCKET	182.00	7	45.39	48.02	53.09	34.64
WOONSOCKET	173.00	8	47.95	51.52	49.83	50.07
WOONSOCKET	172.00	9	31.46	35.84	58.95	35.83

TABLE 5.
CENSUS TRACT FACTOR SCORES AND TOWN MEANS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	WEALTH	SUBURBAN	GROUP	EDUCATION
WOONSOCKET	180.00	13	41.38	12.66	49.27	54.17
AVERAGE			43.52	44.80	50.70	37.17

TABLE 6.

TOTAL POPULATION AND LAND AREA (SQUARE MILES)

FOR CENSUS TRACT CLUSTERS (GEOTYPES), RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	POPULATION	AREA
EAST PROVIDENCE	101.02	1	3,516	1.51
EAST PROVIDENCE	107.01	1	2,826	1.36
LINCOLN	116.00	1	3,925	9.32
LINCOLN	117.02	1	3,328	2.73
NORTH PROVIDENCE	119.00	1	5,863	1.71
NORTH PROVIDENCE	120.00	1	7,189	1.07
CRANSTON	134.00	1	4,909	0.66
CRANSTON	138.00	1	5,048	0.84
CRANSTON	139.00	1	3,136	0.93
CRANSTON	143.00	1	4,912	1.03
CRANSTON	144.00	1	4,029	1.00
CRANSTON	145.00	1	5,456	4.73
PAWTUCKET	169.00	1	2,092	0.71
WARWICK	212.00	1	4,194	0.93
WARWICK	213.00	1	5,266	1.61
WARWICK	214.01	1	4,857	1.01
WARWICK	214.02	1	3,973	0.99
WARWICK	221.00	1	5,656	2.94
WARWICK	224.00	1	2,564	2.58
BARRINGTON	301.00	1	4,472	1.74
BARRINGTON	302.00	1	3,230	1.89
PORTSMOUTH	401.01	1	4,210	2.67
PORTSMOUTH	401.03	1	5,340	14.69
TIVERTON	416.02	1	4,601	3.22
NORTH KINGSTOWN	501.01	1	9,070	7.80
EXETER	505.00	1	4,453	55.36
RICHMOND	506.00	1	4,018	38.84
WESTERLY	509.00	1	7,433	20.68
CHARLESTOWN	511.00	1	4,800	37.83
TOTAL			134,866	222.28
PROVIDENCE	34.00	2	4,973	1.15
EAST GREENWICH	209.02	2	6,681	15.48
WARWICK	216.00	2	1,453	1.45
WARWICK	222.01	2	5,991	3.64
BARRINGTON	303.00	2	4,581	2.56
BARRINGTON	304.00	2	3,891	2.53
PORTSMOUTH	401.02	2	4,707	6.13
MIDDLETOWN	403.02	2	2,653	0.85
MIDDLETOWN	404.00	2	5,700	7.42
JAMESTOWN	413.00	2	4,040	9.54
LITTLE COMPTON	414.00	2	3,085	21.11
NORTH KINGSTOWN	501.02	2	1,527	3.92
NORTH KINGSTOWN	503.00	2	5,213	8.03
NORTH KINGSTOWN	504.00	2	4,458	18.67
WESTERLY	510.00	2	1,960	5.41
SOUTH KINGSTOWN	513.00	2	9,558	47.92

TABLE 6.

TOTAL POPULATION AND LAND AREA (SQUARE MILES)

FOR CENSUS TRACT CLUSTERS (GEOTYPES), RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	POPULATION	AREA
NARRAGANSETT	515.00	2	12,088	13.60
TOTAL			83,564	169.42
EAST PROVIDENCE	107.02	3	5,076	0.77
CUMBERLAND	113.02	3	3,387	1.94
CUMBERLAND	114.01	3	6,710	6.96
CUMBERLAND	114.02	3	2,843	11.14
CUMBERLAND	114.03	3	4,737	2.86
JOHNSTON	122.00	3	4,962	13.68
JOHNSTON	123.00	3	6,719	3.99
JOHNSTON	124.01	3	6,950	2.03
JOHNSTON	124.02	3	2,278	1.21
SMITHFIELD	127.00	3	8,307	10.07
NORTH SMITHFIELD	128.01	3	6,657	6.32
NORTH SMITHFIELD	128.02	3	3,315	17.45
GLOCESTER	131.00	3	7,550	51.36
SCITUATE	132.00	3	8,405	48.70
FOSTER	133.00	3	3,370	51.51
CRANSTON	146.00	3	3,138	9.78
CRANSTON	148.00	3	4,571	1.44
COVENTRY	206.03	3	6,174	3.32
COVENTRY	207.00	3	7,875	47.78
WEST GREENWICH	208.00	3	2,738	50.53
WARWICK	215.02	3	4,372	1.44
WARWICK	219.01	3	4,772	0.90
WARWICK	219.02	3	3,162	0.93
WARWICK	219.03	3	4,743	1.48
TIVERTON	417.00	3	5,873	24.69
TOTAL			128,684	372.28
EAST PROVIDENCE	101.01	4	3,947	1.15
CUMBERLAND	113.01	4	3,770	2.62
LINCOLN	117.01	4	4,479	1.84
NORTH PROVIDENCE	118.00	4	6,661	1.15
NORTH PROVIDENCE	121.02	4	3,792	0.61
JOHNSTON	125.00	4	3,998	2.63
BURRILLVILLE	130.00	4	8,895	52.07
CRANSTON	136.00	4	3,167	0.72
CRANSTON	137.01	4	4,259	0.56
CRANSTON	140.00	4	6,093	0.76
PAWTUCKET	157.00	4	4,019	0.40
PAWTUCKET	158.00	4	4,040	0.59
PAWTUCKET	163.00	4	2,982	0.66
PAWTUCKET	165.00	4	3,948	0.45
PAWTUCKET	168.00	4	3,149	0.34

TABLE 6.

TOTAL POPULATION AND LAND AREA (SQUARE MILES)

FOR CENSUS TRACT CLUSTERS (GEOTYPES), RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	POPULATION	AREA
PAWTUCKET	170.00	4	4,400	0.69
WOONSOCKET	177.00	4	3,896	1.22
WEST WARWICK	201.00	4	9,076	3.62
WEST WARWICK	202.00	4	4,945	1.13
WEST WARWICK	204.00	4	3,358	0.64
WEST WARWICK	205.00	4	3,327	1.72
COVENTRY	206.01	4	4,309	3.76
COVENTRY	206.02	4	8,707	4.28
WARWICK	210.00	4	8,173	1.54
WARWICK	211.00	4	6,000	3.79
WARWICK	215.01	4	3,446	0.76
WARWICK	217.00	4	5,351	1.03
WARWICK	218.00	4	3,811	1.29
WARREN	306.01	4	2,679	4.57
WARREN	306.02	4	4,322	1.32
BRISTOL	309.01	4	4,779	2.50
BRISTOL	309.02	4	5,831	4.69
HOPKINTON	507.00	4	6,406	42.95
WESTERLY	508.02	4	3,484	1.71
TOTAL			163,399	149.77
PROVIDENCE	15.00	5	2,592	0.54
PROVIDENCE	21.00	5	7,770	0.56
PROVIDENCE	29.00	5	5,982	0.77
EAST PROVIDENCE	103.00	5	4,292	1.50
EAST PROVIDENCE	104.00	5	7,359	1.18
EAST PROVIDENCE	105.01	5	4,782	1.48
EAST PROVIDENCE	106.00	5	6,845	0.90
CUMBERLAND	112.00	5	5,622	1.16
LINCOLN	115.00	5	4,717	3.94
CRANSTON	141.00	5	4,213	0.71
CRANSTON	147.00	5	6,804	1.43
PAWTUCKET	150.00	5	4,257	0.45
PAWTUCKET	155.00	5	4,056	0.35
PAWTUCKET	156.00	5	2,423	0.18
PAWTUCKET	159.00	5	3,100	0.29
WOONSOCKET	175.00	5	3,598	0.45
WOONSOCKET	184.00	5	7,473	1.55
WOONSOCKET	185.00	5	3,132	1.43
TIVERTON	416.01	5	3,052	1.07
TOTAL			92,069	19.95
PROVIDENCE	37.00	6	4,250	0.32
CENTRAL FALLS	108.00	6	4,092	0.28
CENTRAL FALLS	109.00	6	4,581	0.36

TABLE 6.

TOTAL POPULATION AND LAND AREA (SQUARE MILES)

FOR CENSUS TRACT CLUSTERS (GEOTYPES), RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	POPULATION	AREA
CENTRAL FALLS	110.00	6	4,603	0.22
CENTRAL FALLS	111.00	6	3,719	0.36
PAWTUCKET	151.00	6	4,621	0.41
PAWTUCKET	153.00	6	2,457	0.24
PAWTUCKET	154.00	6	2,052	0.14
PAWTUCKET	161.00	6	4,135	0.38
PAWTUCKET	164.00	6	4,983	0.48
WOONSOCKET	176.00	6	2,800	0.21
WOONSOCKET	178.00	6	2,724	0.23
WOONSOCKET	179.00	6	3,557	0.29
WOONSOCKET	181.00	6	2,973	0.33
WOONSOCKET	183.00	6	1,616	0.11
BRISTOL	307.00	6	4,771	0.43
TOTAL			57,934	4.79
PROVIDENCE	1.00	7	7,763	1.38
PROVIDENCE	16.00	7	5,949	0.38
PROVIDENCE	17.00	7	3,129	0.39
PROVIDENCE	20.00	7	3,217	0.50
PROVIDENCE	22.00	7	3,766	0.45
PROVIDENCE	27.00	7	3,724	0.42
PROVIDENCE	28.00	7	5,085	0.61
EAST PROVIDENCE	102.00	7	7,402	1.04
PAWTUCKET	160.00	7	2,649	0.35
PAWTUCKET	166.00	7	1,710	0.20
PAWTUCKET	167.00	7	2,938	0.45
PAWTUCKET	171.00	7	4,778	0.67
WOONSOCKET	174.00	7	4,978	0.61
WOONSOCKET	182.00	7	2,496	0.23
WEST WARWICK	203.00	7	6,320	0.86
WARREN	305.00	7	3,639	0.63
WESTERLY	508.01	7	5,703	1.33
TOTAL			75,246	10.50
PROVIDENCE	23.00	8	5,315	0.45
PROVIDENCE	24.00	8	7,670	1.15
PROVIDENCE	33.00	8	4,624	0.50
EAST PROVIDENCE	105.02	8	4,935	2.24
NORTH PROVIDENCE	121.01	8	5,683	1.10
SMITHFIELD	126.00	8	8,579	16.07
BURRILLVILLE	129.00	8	4,269	3.28
CRANSTON	135.00	8	5,306	0.54
CRANSTON	137.02	8	3,002	0.31
CRANSTON	142.00	8	3,949	1.86
WOONSOCKET	173.00	8	3,707	0.62

TABLE 6.

TOTAL POPULATION AND LAND AREA (SQUARE MILES)

FOR CENSUS TRACT CLUSTERS (GLOTYPES), RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	POPULATION	AREA
EAST GREENWICH	209.01	8	3,530	0.99
WARWICK	220.00	8	3,553	1.21
WARWICK	222.02	8	2,287	2.93
WARWICK	223.00	8	3,499	2.29
BRISTOL	308.00	8	4,747	2.45
SOUTH KINGSTOWN	512.00	8	6,210	5.17
TOTAL			30,865	43.14
PROVIDENCE	2.00	9	8,611	0.91
PROVIDENCE	3.00	9	5,603	0.36
PROVIDENCE	9.00	9	2,343	0.19
PROVIDENCE	10.00	9	2,321	0.17
PROVIDENCE	11.00	9	2,658	0.20
PROVIDENCE	13.00	9	3,773	0.22
PROVIDENCE	14.00	9	4,960	0.33
PROVIDENCE	18.00	9	5,535	0.54
PROVIDENCE	19.00	9	4,674	0.46
PROVIDENCE	25.00	9	2,306	0.29
PROVIDENCE	26.00	9	3,332	0.30
WOONSOCKET	172.00	9	1,066	0.17
NEWPORT	405.00	9	5,274	0.89
TOTAL			52,461	5.02
PROVIDENCE	36.00	10	8,028	0.61
MIDDLETOWN	402.00	10	2,003	0.98
NEWPORT	412.00	10	3,272	0.84
SOUTH KINGSTOWN	514.00	10	4,646	1.83
TOTAL			17,949	4.26
PROVIDENCE	31.00	11	3,534	0.31
PROVIDENCE	32.00	11	3,618	0.26
PROVIDENCE	35.00	11	5,212	0.51
MIDDLETOWN	403.01	11	6,860	3.45
NEWPORT	406.00	11	4,817	0.37
NEWPORT	407.00	11	4,144	0.64
NEWPORT	408.00	11	3,911	0.61
NEWPORT	409.00	11	4,783	3.71
NEWPORT	410.00	11	1,337	0.27
NEWPORT	411.00	11	1,721	0.26
NEW SHOREHAM	415.00	11	620	9.48
NORTH KINGSTOWN	502.00	11	665	4.05
TOTAL			41,222	23.92

TABLE 6.

TOTAL POPULATION AND LAND AREA (SQUARE MILES)

FOR CENSUS TRACT CLUSTERS (GEOTYPES), RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	POPULATION	AREA
PROVIDENCE	4.00	12	3,334	0.24
PROVIDENCE	5.00	12	2,882	0.40
PROVIDENCE	6.00	12	1,374	0.32
PROVIDENCE	7.00	12	1,681	0.55
PROVIDENCE	12.00	12	2,643	0.19
TOTAL			11,914	1.71
PAWTUCKET	149.00	13	636	0.11
PAWTUCKET	152.00	13	1,379	0.11
WOONSOCKET	180.00	13	1,898	0.22
TOTAL			4,413	0.44
PROVIDENCE	8.00	14	2,045	0.48
PROVIDENCE	30.00	14	523	0.49
TOTAL			2,568	0.97

TABLE 7.

TOTAL POPULATION AND LAND AREA (SQUARE MILES)

FOR CITIES AND TOWNS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	POPULATION	AREA
BARRINGTON	301.00	1	4,472	1.74
BARRINGTON	302.00	1	3,230	1.89
BARRINGTON	303.00	2	4,581	2.56
BARRINGTON	304.00	2	3,891	2.53
TOTAL			16,174	8.72
BRISTOL	309.01	4	4,779	2.50
BRISTOL	309.02	4	5,831	4.69
BRISTOL	307.00	6	4,771	0.43
BRISTOL	308.00	8	4,747	2.45
TOTAL			20,128	10.07
BURRILLVILLE	130.00	4	8,895	52.07
BURRILLVILLE	129.00	8	4,269	3.28
TOTAL			13,164	55.35
CENTRAL FALLS	108.00	6	4,092	0.28
CENTRAL FALLS	109.00	6	4,581	0.36
CENTRAL FALLS	110.00	6	4,603	0.22
CENTRAL FALLS	111.00	6	3,719	0.36
TOTAL			16,995	1.23
CHARLESTOWN	511.00	1	4,800	37.33
TOTAL			4,800	37.33
COVENTRY	206.03	3	6,174	3.32
COVENTRY	207.00	3	7,875	47.78
COVENTRY	206.01	4	4,309	3.76
COVENTRY	206.02	4	8,707	4.28
TOTAL			27,065	59.14
CRANSTON	134.00	1	4,909	0.66
CRANSTON	138.00	1	5,048	0.84
CRANSTON	139.00	1	3,136	0.93
CRANSTON	143.00	1	4,912	1.03
CRANSTON	144.00	1	4,029	1.00
CRANSTON	145.00	1	5,456	4.73

TABLE 7.

TOTAL POPULATION AND LAND AREA (SQUARE MILES)

FOR CITIES AND TOWNS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	POPULATION	AREA
CRANSTON	146.00	3	3,138	9.78
CRANSTON	148.00	3	4,571	1.44
CRANSTON	136.00	4	3,167	0.72
CRANSTON	137.01	4	4,259	0.56
CRANSTON	140.00	4	6,093	0.76
CRANSTON	141.00	5	4,213	0.71
CRANSTON	147.00	5	6,804	1.43
CRANSTON	135.00	8	5,306	0.54
CRANSTON	137.02	8	3,002	0.31
CRANSTON	142.00	8	3,949	1.86
TOTAL			71,992	27.31
CUMBERLAND	113.02	3	3,387	1.94
CUMBERLAND	114.01	3	6,710	6.96
CUMBERLAND	114.02	3	2,843	11.14
CUMBERLAND	114.03	3	4,737	2.86
CUMBERLAND	113.01	4	3,770	2.62
CUMBERLAND	112.00	5	5,622	1.16
TOTAL			27,069	26.67
EAST GREENWICH	209.02	2	6,681	15.48
EAST GREENWICH	209.01	3	3,530	0.99
TOTAL			10,211	16.47
EAST PROVIDENCE	101.02	1	3,516	1.51
EAST PROVIDENCE	107.01	1	2,826	1.36
EAST PROVIDENCE	107.02	3	5,076	0.77
EAST PROVIDENCE	101.01	4	3,947	1.15
EAST PROVIDENCE	103.00	5	4,292	1.50
EAST PROVIDENCE	104.00	5	7,359	1.18
EAST PROVIDENCE	105.01	5	4,782	1.48
EAST PROVIDENCE	106.00	5	6,845	0.90
EAST PROVIDENCE	102.00	7	7,402	1.04
EAST PROVIDENCE	105.02	8	4,935	2.24
TOTAL			50,980	13.14
EXETER	505.00	1	4,453	55.36
TOTAL			4,453	55.36

TABLE 7.

TOTAL POPULATION AND LAND AREA (SQUARE MILES)

FOR CITIES AND TOWNS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	POPULATION	AREA
FOSTER	133.00	3	3,370	51.51
TOTAL			3,370	51.51
GLOCESTER	131.00	3	7,550	51.36
TOTAL			7,550	51.36
HOPKINTON	507.00	4	6,406	42.95
TOTAL			6,406	42.95
JAMESTOWN	413.00	2	4,040	9.54
TOTAL			4,040	9.54
JOHNSTON	122.00	3	4,962	13.68
JOHNSTON	123.00	3	6,719	3.99
JOHNSTON	124.01	3	6,950	2.03
JOHNSTON	124.02	3	2,278	1.21
JOHNSTON	125.00	4	3,998	2.63
TOTAL			24,907	23.54
LINCOLN	116.00	1	3,925	9.32
LINCOLN	117.02	1	3,828	2.73
LINCOLN	117.01	4	4,479	1.84
LINCOLN	115.00	5	4,717	3.94
TOTAL			16,949	17.84
LITTLE COMPTON	414.00	2	3,085	21.11
TOTAL			3,085	21.11
MIDDLETOWN	403.02	2	2,653	0.85
MIDDLETOWN	404.00	2	5,700	7.42
MIDDLETOWN	402.00	10	2,003	0.98
MIDDLETOWN	403.01	11	6,860	3.45
TOTAL			17,216	12.70

TABLE 7.

TOTAL POPULATION AND LAND AREA (SQUARE MILES)

FOR CITIES AND TOWNS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	POPULATION	AREA
NARRAGANSETT	515.00	2	12,088	13.60
TOTAL			12,088	13.60
NEW SHOREHAM	415.00	11	620	9.48
TOTAL			620	9.48
NEWPORT	405.00	9	5,274	0.39
NEWPORT	412.00	10	3,272	0.84
NEWPORT	406.00	11	4,817	0.37
NEWPORT	407.00	11	4,144	0.64
NEWPORT	408.00	11	3,911	0.61
NEWPORT	409.00	11	4,783	3.71
NEWPORT	410.00	11	1,337	0.27
NEWPORT	411.00	11	1,721	0.26
TOTAL			29,259	7.60
NORTH KINGSTOWN	501.01	1	9,070	7.80
NORTH KINGSTOWN	501.02	2	1,527	3.92
NORTH KINGSTOWN	503.00	2	6,218	8.03
NORTH KINGSTOWN	504.00	2	4,458	18.62
NORTH KINGSTOWN	502.00	11	665	4.05
TOTAL			21,938	42.42
NORTH PROVIDENCE	119.00	1	5,863	1.71
NORTH PROVIDENCE	120.00	1	7,189	1.07
NORTH PROVIDENCE	116.00	4	6,661	1.15
NORTH PROVIDENCE	121.02	4	3,792	0.61
NORTH PROVIDENCE	121.01	5	5,683	1.10
TOTAL			29,188	5.62
NORTH SMITHFIELD	128.01	3	6,657	6.32
NORTH SMITHFIELD	126.02	3	3,315	17.45
TOTAL			9,972	23.77
PAWTUCKET	169.00	1	2,092	0.71
PAWTUCKET	157.00	4	4,019	0.49

TABLE 7.

TOTAL POPULATION AND LAND AREA (SQUARE MILES)

FOR CITIES AND TOWNS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	POPULATION	AREA
PAWTUCKET	158.00	4	4,040	0.59
PAWTUCKET	163.00	4	2,882	0.66
PAWTUCKET	165.00	4	3,948	0.45
PAWTUCKET	168.00	4	3,149	0.34
PAWTUCKET	170.00	4	4,400	0.69
PAWTUCKET	150.00	5	4,257	0.45
PAWTUCKET	155.00	5	4,056	0.35
PAWTUCKET	156.00	5	2,423	0.18
PAWTUCKET	159.00	5	3,100	0.29
PAWTUCKET	151.00	6	4,621	0.41
PAWTUCKET	153.00	6	2,457	0.24
PAWTUCKET	154.00	6	2,052	0.14
PAWTUCKET	161.00	6	4,135	0.38
PAWTUCKET	164.00	6	4,933	0.48
PAWTUCKET	160.00	7	2,649	0.35
PAWTUCKET	166.00	7	1,710	0.20
PAWTUCKET	167.00	7	2,938	0.45
PAWTUCKET	171.00	7	4,778	0.67
PAWTUCKET	149.00	13	636	0.11
PAWTUCKET	152.00	13	1,879	0.11
TOTAL			71,204	8.65
PORTSMOUTH	401.01	1	4,210	2.67
PORTSMOUTH	401.03	1	5,340	14.69
PORTSMOUTH	401.02	2	4,707	6.18
TOTAL			14,257	23.54
PROVIDENCE	34.00	2	4,973	1.15
PROVIDENCE	15.00	5	2,592	0.54
PROVIDENCE	21.00	5	7,770	0.56
PROVIDENCE	29.00	5	5,982	0.77
PROVIDENCE	37.00	6	4,250	0.32
PROVIDENCE	1.00	7	7,763	1.38
PROVIDENCE	16.00	7	5,949	0.38
PROVIDENCE	17.00	7	3,129	0.39
PROVIDENCE	20.00	7	3,217	0.50
PROVIDENCE	22.00	7	3,766	0.45
PROVIDENCE	27.00	7	3,724	0.42
PROVIDENCE	28.00	7	5,085	0.61
PROVIDENCE	23.00	8	5,315	0.45
PROVIDENCE	24.00	8	7,670	1.15
PROVIDENCE	33.00	8	4,624	0.50
PROVIDENCE	2.00	9	8,611	0.91
PROVIDENCE	3.00	9	5,603	0.36
PROVIDENCE	9.00	9	2,343	0.19

TABLE 7.

TOTAL POPULATION AND LAND AREA (SQUARE MILES)

FOR CITIES AND TOWNS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	POPULATION	AREA
PROVIDENCE	10.00	9	2,321	0.17
PROVIDENCE	11.00	9	2,658	0.20
PROVIDENCE	13.00	9	3,773	0.22
PROVIDENCE	14.00	9	4,960	0.33
PROVIDENCE	18.00	9	5,535	0.54
PROVIDENCE	19.00	9	4,674	0.46
PROVIDENCE	25.00	9	2,306	0.28
PROVIDENCE	26.00	9	3,332	0.30
PROVIDENCE	36.00	10	8,028	0.61
PROVIDENCE	31.00	11	3,534	0.31
PROVIDENCE	32.00	11	3,618	0.26
PROVIDENCE	35.00	11	5,212	0.51
PROVIDENCE	4.00	12	3,334	0.24
PROVIDENCE	5.00	12	2,882	0.40
PROVIDENCE	6.00	12	1,374	0.32
PROVIDENCE	7.00	12	1,681	0.55
PROVIDENCE	12.00	12	2,643	0.19
PROVIDENCE	8.00	14	2,045	0.48
PROVIDENCE	30.00	14	523	0.49
TOTAL			156,804	17.90
RICHMOND	506.00	1	4,018	38.84
TOTAL			4,018	38.84
SCITUATE	132.00	3	8,405	48.70
TOTAL			8,405	48.70
SMITHFIELD	127.00	3	8,307	10.07
SMITHFIELD	126.00	8	8,579	16.07
TOTAL			16,886	26.14
SOUTH KINGSTOWN	513.00	2	9,558	47.92
SOUTH KINGSTOWN	512.00	8	6,210	5.17
SOUTH KINGSTOWN	514.00	10	4,646	1.83
TOTAL			20,414	54.92
TIVERTON	416.02	1	4,601	3.22
TIVERTON	417.00	3	5,873	24.69
TIVERTON	416.01	5	3,052	1.07

TABLE 7.

TOTAL POPULATION AND LAND AREA (SQUARE MILES)

FOR CITIES AND TOWNS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	POPULATION	AREA
TOTAL			13,526	23.98
WARREN	306.01	4	2,679	4.57
WARREN	306.02	4	4,322	1.32
WARREN	305.00	7	3,639	0.63
TOTAL			10,640	6.51
WARWICK	212.00	1	4,194	0.93
WARWICK	213.00	1	5,266	1.61
WARWICK	214.01	1	4,857	1.01
WARWICK	214.02	1	3,973	0.89
WARWICK	221.00	1	5,656	2.94
WARWICK	224.00	1	2,564	2.58
WARWICK	216.00	2	1,453	1.45
WARWICK	222.01	2	5,991	3.64
WARWICK	215.02	3	4,372	1.44
WARWICK	219.01	3	4,772	0.90
WARWICK	219.02	3	3,162	0.93
WARWICK	219.03	3	4,743	1.48
WARWICK	210.00	4	8,173	1.54
WARWICK	211.00	4	6,000	3.79
WARWICK	215.01	4	3,446	0.76
WARWICK	217.00	4	5,351	1.03
WARWICK	218.00	4	3,811	1.29
WARWICK	220.00	8	3,553	1.21
WARWICK	222.02	8	2,287	2.43
WARWICK	223.00	8	3,499	2.29
TOTAL			87,123	34.65
WEST GREENWICH	208.00	3	2,738	50.53
TOTAL			2,738	50.53
WEST WARWICK	201.00	4	9,076	3.62
WEST WARWICK	202.00	4	4,945	1.13
WEST WARWICK	204.00	4	3,358	0.64
WEST WARWICK	205.00	4	3,327	1.72
WEST WARWICK	203.00	7	6,320	0.86
TOTAL			27,026	7.96

TABLE 7.

TOTAL POPULATION AND LAND AREA (SQUARE MILES)

FOR CITIES AND TOWNS, RHODE ISLAND - 1980

TOWN	TRACT	CLUSTER	POPULATION	AREA
WESTERLY	509.00	1	7,433	20.68
WESTERLY	510.00	2	1,960	5.41
WESTERLY	508.02	4	3,484	1.71
WESTERLY	508.01	7	5,703	1.33
TOTAL			18,580	29.14
WOONSOCKET	177.00	4	3,896	1.22
WOONSOCKET	175.00	5	3,598	0.45
WOONSOCKET	184.00	5	7,473	1.55
WOONSOCKET	185.00	5	3,132	1.43
WOONSOCKET	176.00	6	2,300	0.21
WOONSOCKET	178.00	6	2,724	0.23
WOONSOCKET	179.00	6	3,557	0.29
WOONSOCKET	181.00	6	2,973	0.33
WOONSOCKET	183.00	6	1,616	0.11
WOONSOCKET	174.00	7	4,978	0.61
WOONSOCKET	182.00	7	2,456	0.23
WOONSOCKET	173.00	8	3,707	0.62
WOONSOCKET	172.00	9	1,066	0.17
WOONSOCKET	180.00	13	1,898	0.22
TOTAL			45,914	7.64

Table 8

Number of Census Tracts and Factor Means for the 1980 SES Clusters

	SES Cluster			
	Poverty	Low	Middle	High
Number of Census Tracts	38	47	77	51
1980 Population	132,221	210,756	363,430	240,747
Mean Wealth	33.7	48.9	53.8	57.5
Mean Education	35.3	43.5	53.4	61.8

Table 9

Comparison of 1970 SES Groups and 1980 SES Clusters
for Selected Sociodemographic Characteristics Appearing on the 1980 Census

	Poverty		Low		Middle		High	
	1980	1970	1980	1970	1980	1970	1980	1970
Number of Census Tracts	38	19	47	58	77	85	51	51
1980 Population	132,221	57,641	210,756	237,232	363,430	399,861	240,747	252,420
Average Housing Value	$32,569	$26,581	$41,667	$40,172	$50,374	$51,114	$68,193	$65,036
Average Rent	$184	$175	$212	$206	$246	$247	$285	$278
Percent Rentals	75.8	79.1	47.8	59.0	33.5	32.4	29.0	29.6
Wealth CV*	27.6	32.0	10.7	15.3	9.4	9.0	6.6	6.5
Education CV*	13.3	11.7	9.0	20.2	5.3	9.9	6.9	9.5
Average Housing Value CV*	31.3	31.0	18.2	24.4	17.2	20.8	25.0	25.6
Average Rent CV*	15.8	18.7	13.7	17.5	15.8	15.3	15.7	16.8
Average Rentals CV*	10.9	11.4	33.1	31.8	59.8	58.7	73.4	60.4

*Coefficient of Variance

TABLE 1C.

1980 AND 1970 SOCIOECONOMIC STATUS (SES) COMPARISON
FOR CENSUS TRACTS IN RHODE ISLAND,
SORTED BY THE 1980 SES CLUSTERS

TOWNNAME	CENSUS TRACT	1980 SES CLUSTER	1970 SES GROUP	1980 FACTOR WEALTH	1980 FACTOR EDUCATION	1970 SES VALUE
PROVIDENCE	24.00	HIGH	MIDDLE	61.58	55.21	53.22
PROVIDENCE	34.00	HIGH	HIGH	59.31	75.72	94.73
PROVIDENCE	36.00	HIGH	HIGH	55.98	60.08	66.13
EAST PROVIDENCE	101.02	HIGH	HIGH	60.32	55.53	59.65
EAST PROVIDENCE	107.01	HIGH	HIGH	58.99	59.41	58.43
CUMBERLAND	114.01	HIGH	HIGH	61.45	58.55	67.62
CUMBERLAND	114.02	HIGH	HIGH	62.46	57.70	64.04
LINCOLN	116.00	HIGH	HIGH	62.64	61.74	66.66
LINCOLN	117.02	HIGH	MIDDLE	57.06	56.64	55.81
NORTH PROVIDENCE	120.00	HIGH	HIGH	61.22	56.90	60.86
JOHNSTON	122.00	HIGH	HIGH	57.53	57.51	58.04
SMITHFIELD	127.00	HIGH	HIGH	59.76	59.40	58.13
SCITUATE	132.00	HIGH	MIDDLE	57.01	58.00	53.69
CRANSTON	134.00	HIGH	HIGH	54.04	58.05	56.08
CRANSTON	139.00	HIGH	HIGH	60.93	59.25	63.74
CRANSTON	142.00	HIGH	MIDDLE	59.97	56.65	51.25
CRANSTON	143.00	HIGH	HIGH	63.32	61.54	73.73
CRANSTON	144.00	HIGH	HIGH	63.87	63.56	71.77
CRANSTON	145.00	HIGH	MIDDLE	58.63	57.72	54.00
CRANSTON	146.00	HIGH	MIDDLE	58.99	58.36	52.63
PAWTUCKET	169.00	HIGH	HIGH	57.75	59.18	56.29
EAST GREENWICH	209.02	HIGH	MIDDLE	62.41	68.25	78.03
WARWICK	213.00	HIGH	HIGH	60.01	55.66	64.95
WARWICK	216.00	HIGH	HIGH	57.90	70.27	74.53
WARWICK	221.00	HIGH	HIGH	61.47	57.86	59.87
WARWICK	222.01	HIGH	HIGH	58.45	65.07	62.00
WARWICK	222.02	HIGH	HIGH	61.79	59.68	58.83
WARWICK	224.00	HIGH	MIDDLE	56.91	55.67	53.42
BARRINGTON	301.00	HIGH	HIGH	60.79	60.41	64.61
BARRINGTON	302.00	HIGH	HIGH	58.25	57.08	62.02
BARRINGTON	303.00	HIGH	HIGH	58.23	65.40	75.31
BARRINGTON	304.00	HIGH	HIGH	61.98	71.01	85.79
PORTSMOUTH	401.02	HIGH	HIGH	58.89	64.72	63.13
PORTSMOUTH	401.03	HIGH	HIGH	56.87	59.10	57.20
MIDDLETOWN	402.00	HIGH	LOW	56.72	63.06	42.12
MIDDLETOWN	403.02	HIGH	HIGH	55.33	63.25	58.70
MIDDLETOWN	404.00	HIGH	HIGH	54.76	62.56	62.53
NEWPORT	407.00	HIGH	HIGH	49.25	53.10	58.82
NEWPORT	409.00	HIGH	HIGH	53.67	62.43	54.57
NEWPORT	412.00	HIGH	MIDDLE	47.11	60.59	51.59
JAMESTOWN	413.00	HIGH	MIDDLE	54.82	66.28	52.32
LITTLE COMPTON	414.00	HIGH	MIDDLE	53.74	64.80	53.29
NEW SHOREHAM	415.00	HIGH	LOW	49.90	66.07	44.55
NORTH KINGSTOWN	501.01	HIGH	HIGH	54.64	57.94	60.72
NORTH KINGSTOWN	501.02	HIGH	HIGH	52.94	64.25	49.41
NORTH KINGSTOWN	503.00	HIGH	MIDDLE	53.58	63.08	52.03
NORTH KINGSTOWN	504.00	HIGH	MIDDLE	54.19	63.53	53.68
WESTERLY	510.00	HIGH	HIGH	54.67	64.94	67.36
SOUTH KINGSTOWN	513.00	HIGH	HIGH	51.94	66.21	57.51
SOUTH KINGSTOWN	514.00	HIGH	HIGH	54.90	61.94	59.25

TABLE 1C.

1980 AND 1970 SOCIOECONOMIC STATUS (SES) COMPARISON
FOR CENSUS TRACTS IN RHODE ISLAND,
SORTED BY THE 1980 SES CLUSTERS

TOWNNAME	CENSUS TRACT	1980 SES CLUSTER	1970 SES GROUP	1980 FACTOR WEALTH	1980 FACTOR EDUCATION	1970 SES VALUE
NARRAGANSETT	515.00	HIGH	HIGH	53.83	54.30	56.74
PROVIDENCE	9.00	MIDDLE	MIDDLE	59.75	54.84	47.03
PROVIDENCE	23.00	MIDDLE	MIDDLE	55.42	54.19	52.43
PROVIDENCE	30.00	MIDDLE	LOW	55.63	52.67	.
PROVIDENCE	31.00	MIDDLE	MIDDLE	36.86	54.81	46.72
PROVIDENCE	32.00	MIDDLE	MIDDLE	37.36	55.91	53.49
PROVIDENCE	33.00	MIDDLE	HIGH	52.89	55.21	56.27
PROVIDENCE	35.00	MIDDLE	HIGH	49.48	54.95	58.40
EAST PROVIDENCE	101.01	MIDDLE	HIGH	55.98	52.33	55.00
EAST PROVIDENCE	105.02	MIDDLE	MIDDLE	56.24	54.54	53.21
EAST PROVIDENCE	107.02	MIDDLE	HIGH	57.78	53.64	52.43
CUMBERLAND	113.02	MIDDLE	MIDDLE	63.27	48.61	51.32
CUMBERLAND	114.03	MIDDLE	HIGH	59.13	50.15	56.10
LINCOLN	117.01	MIDDLE	MIDDLE	59.56	50.09	53.61
NORTH PROVIDENCE	118.00	MIDDLE	MIDDLE	55.11	49.58	49.00
NORTH PROVIDENCE	119.00	MIDDLE	HIGH	57.54	55.69	53.01
NORTH PROVIDENCE	121.01	MIDDLE	MIDDLE	52.33	50.36	49.07
NORTH PROVIDENCE	121.02	MIDDLE	MIDDLE	55.31	48.74	47.52
JOHNSTON	123.00	MIDDLE	MIDDLE	52.73	51.57	50.94
JOHNSTON	124.01	MIDDLE	MIDDLE	56.54	50.64	48.39
JOHNSTON	124.02	MIDDLE	MIDDLE	56.79	50.57	55.20
JOHNSTON	125.00	MIDDLE	MIDDLE	53.19	52.14	55.55
SMITHFIELD	126.00	MIDDLE	MIDDLE	57.66	53.59	50.78
NORTH SMITHFIELD	128.01	MIDDLE	MIDDLE	55.63	53.26	52.62
NORTH SMITHFIELD	128.02	MIDDLE	MIDDLE	59.78	51.66	52.56
BURRILLVILLE	129.00	MIDDLE	LOW	48.41	51.80	41.54
BURRILLVILLE	130.00	MIDDLE	LOW	53.92	52.71	43.60
GLOCESTER	131.00	MIDDLE	MIDDLE	53.10	55.66	52.08
FOSTER	133.00	MIDDLE	MIDDLE	53.18	55.72	48.50
CRANSTON	135.00	MIDDLE	MIDDLE	48.82	51.64	49.90
CRANSTON	136.00	MIDDLE	MIDDLE	53.67	49.63	51.76
CRANSTON	137.01	MIDDLE	MIDDLE	53.74	48.83	48.36
CRANSTON	137.02	MIDDLE	MIDDLE	52.60	52.85	53.55
CRANSTON	138.00	MIDDLE	MIDDLE	56.54	56.08	53.86
CRANSTON	140.00	MIDDLE	HIGH	57.56	50.74	54.54
CRANSTON	148.00	MIDDLE	MIDDLE	55.57	50.56	46.21
PAWTUCKET	165.00	MIDDLE	HIGH	53.62	52.35	60.96
PAWTUCKET	168.00	MIDDLE	MIDDLE	58.61	49.10	47.96
PAWTUCKET	170.00	MIDDLE	MIDDLE	59.67	49.63	49.88
WEST WARWICK	201.00	MIDDLE	MIDDLE	51.40	51.95	50.14
WEST WARWICK	205.00	MIDDLE	MIDDLE	51.82	51.35	52.55
COVENTRY	206.01	MIDDLE	MIDDLE	55.51	49.67	50.48
COVENTRY	206.02	MIDDLE	MIDDLE	52.18	49.96	48.83
COVENTRY	206.03	MIDDLE	MIDDLE	56.89	50.76	48.48
COVENTRY	207.00	MIDDLE	HIGH	56.08	56.64	56.50
WEST GREENWICH	208.00	MIDDLE	MIDDLE	51.97	54.09	52.34
EAST GREENWICH	209.01	MIDDLE	MIDDLE	46.36	56.09	57.42
WARWICK	210.00	MIDDLE	MIDDLE	54.52	53.19	51.48
WARWICK	211.00	MIDDLE	MIDDLE	55.73	50.42	47.86
WARWICK	212.00	MIDDLE	HIGH	58.97	54.09	56.34

TABLE 1C.

1980 AND 1970 SOCIOECONOMIC STATUS (SES) COMPARISON
FOR CENSUS TRACTS IN RHODE ISLAND,
SORTED BY THE 1980 SES CLUSTERS

TOWNNAME	CENSUS TRACT	1980 SES CLUSTER	1970 SES GROUP	1980 FACTOR WEALTH	1980 FACTOR EDUCATION	1970 SES VALUE
WARWICK	214.01	MIDDLE	MIDDLE	59.08	55.07	49.01
WARWICK	214.02	MIDDLE	MIDDLE	59.12	54.53	54.02
WARWICK	215.02	MIDDLE	LOW	50.93	51.95	47.49
WARWICK	218.00	MIDDLE	HIGH	55.60	54.13	55.55
WARWICK	219.01	MIDDLE	MIDDLE	56.39	50.79	49.69
WARWICK	219.02	MIDDLE	MIDDLE	56.49	51.75	52.56
WARWICK	219.03	MIDDLE	MIDDLE	60.35	57.68	52.39
WARWICK	220.00	MIDDLE	MIDDLE	48.08	54.36	49.13
WARWICK	223.00	MIDDLE	MIDDLE	54.27	53.47	47.47
WARREN	301.01	MIDDLE	MIDDLE	56.04	52.21	49.72
WARREN	306.02	MIDDLE	MIDDLE	57.21	50.10	52.18
BRISTOL	309.02	MIDDLE	HIGH	57.20	50.15	55.65
PORTSMOUTH	401.01	MIDDLE	HIGH	53.20	57.50	52.70
MIDDLETOWN	403.01	MIDDLE	HIGH	47.33	56.85	64.32
NEWPORT	406.00	MIDDLE	MIDDLE	43.82	55.58	47.68
NEWPORT	408.00	MIDDLE	MIDDLE	42.95	58.74	51.31
NEWPORT	410.00	MIDDLE	LOW	40.32	57.37	43.21
NEWPORT	411.00	MIDDLE	LOW	48.52	58.74	43.06
TIVERTON	416.02	MIDDLE	MIDDLE	58.73	54.83	57.51
TIVERTON	417.00	MIDDLE	MIDDLE	53.01	55.86	51.03
NORTH KINGSTOWN	502.00	MIDDLE	MIDDLE	48.20	59.96	47.12
EXETER	505.00	MIDDLE	MIDDLE	53.05	57.20	47.03
RICHMOND	506.00	MIDDLE	MIDDLE	51.45	57.70	48.50
HOPKINTON	507.00	MIDDLE	MIDDLE	51.82	53.02	48.60
WESTERLY	508.02	MIDDLE	MIDDLE	56.43	53.25	50.07
WESTERLY	509.00	MIDDLE	MIDDLE	56.37	54.78	50.93
CHARLESTOWN	511.00	MIDDLE	MIDDLE	52.03	58.64	51.20
SOUTH KINGSTOWN	512.00	MIDDLE	MIDDLE	48.35	57.91	51.49
PROVIDENCE	1.00	LOW	LOW	41.80	39.63	45.01
PROVIDENCE	15.00	LOW	MIDDLE	47.10	47.50	48.33
PROVIDENCE	16.00	LOW	LOW	42.43	42.51	43.72
PROVIDENCE	17.00	LOW	LOW	44.78	41.37	42.33
PROVIDENCE	20.00	LOW	LOW	36.32	41.47	40.15
PROVIDENCE	21.00	LOW	MIDDLE	51.28	46.64	47.03
PROVIDENCE	22.00	LOW	LOW	38.35	44.30	40.45
PROVIDENCE	27.00	LOW	LOW	41.01	48.07	41.05
PROVIDENCE	28.00	LOW	LOW	44.24	45.26	42.59
PROVIDENCE	25.00	LOW	LOW	48.65	42.28	43.84
EAST PROVIDENCE	102.00	LOW	LOW	49.35	35.41	44.10
EAST PROVIDENCE	103.00	LOW	LOW	44.15	39.53	44.07
EAST PROVIDENCE	104.00	LOW	LOW	51.33	39.57	44.22
EAST PROVIDENCE	105.01	LOW	MIDDLE	52.83	45.63	50.21
EAST PROVIDENCE	106.00	LOW	LOW	45.65	48.14	44.59
CUMBERLAND	112.00	LOW	LOW	52.20	34.72	43.23
CUMBERLAND	113.01	LOW	MIDDLE	54.52	47.10	51.13
LINCOLN	115.00	LOW	MIDDLE	53.65	44.57	47.36
CRANSTON	141.00	LOW	MIDDLE	47.20	47.02	46.19
CRANSTON	147.00	LOW	LOW	47.02	48.13	45.37
PAWTUCKET	149.00	LOW	LOW	49.13	39.52	41.11
PAWTUCKET	150.00	LOW	LOW	50.64	40.74	43.37

TABLE 10.

1980 AND 1970 SOCIOECONOMIC STATUS (SES) COMPARISON
FOR CENSUS TRACTS IN RHODE ISLAND,
SORTED BY THE 1980 SES CLUSTERS

TOWNNAME	CENSUS TRACT	1980 SES CLUSTER	1970 SES GROUP	1980 FACTOR WEALTH	1980 FACTOR EDUCATION	1970 SES VALUE
PAWTUCKET	155.00	LOW	LOW	51.49	35.78	43.25
PAWTUCKET	156.00	LOW	LOW	49.38	39.19	44.84
PAWTUCKET	157.00	LOW	MIDDLE	58.70	46.04	48.89
PAWTUCKET	158.00	LOW	MIDDLE	56.95	45.22	47.40
PAWTUCKET	159.00	LOW	LOW	53.33	40.95	44.16
PAWTUCKET	160.00	LOW	LOW	42.03	47.04	44.35
PAWTUCKET	163.00	LOW	MIDDLE	55.35	47.27	52.72
PAWTUCKET	166.00	LOW	LOW	46.33	40.71	42.16
PAWTUCKET	167.00	LOW	LOW	44.38	39.50	43.18
PAWTUCKET	171.00	LOW	LOW	44.46	39.35	43.36
WOONSOCKET	173.00	LOW	MIDDLE	47.95	50.07	52.76
WOONSOCKET	174.00	LOW	POVERTY	36.99	41.87	39.93
WOONSOCKET	175.00	LOW	MIDDLE	53.07	43.95	46.91
WOONSOCKET	177.00	LOW	LOW	56.52	44.22	44.04
WOONSOCKET	184.00	LOW	MIDDLE	51.94	44.68	50.12
WOONSOCKET	185.00	LOW	LOW	52.93	41.44	45.07
WEST WARWICK	202.00	LOW	LOW	49.88	47.27	44.66
WEST WARWICK	203.00	LOW	LOW	42.77	43.14	43.91
WEST WARWICK	204.00	LOW	LOW	48.47	44.11	42.93
WARWICK	215.01	LOW	LOW	46.61	50.04	42.83
WARWICK	217.00	LOW	LOW	49.30	48.00	41.55
BRISTOL	308.00	LOW	MIDDLE	55.62	44.52	47.81
BRISTOL	309.01	LOW	HIGH	54.81	45.40	50.04
TIVERTON	416.01	LOW	MIDDLE	56.08	43.62	45.25
WESTERLY	503.01	LOW	MIDDLE	47.09	40.21	50.27
PROVIDENCE	2.00	POVERTY	LOW	27.55	41.22	44.47
PROVIDENCE	3.00	POVERTY	POVERTY	25.59	35.77	38.56
PROVIDENCE	4.00	POVERTY	POVERTY	16.49	34.92	36.60
PROVIDENCE	5.00	POVERTY	POVERTY	10.60	41.04	37.45
PROVIDENCE	6.00	POVERTY	POVERTY	13.50	40.68	38.93
PROVIDENCE	7.00	POVERTY	POVERTY	18.00	40.93	32.37
PROVIDENCE	9.00	POVERTY	POVERTY	33.72	33.07	32.77
PROVIDENCE	10.00	POVERTY	POVERTY	31.82	40.05	39.80
PROVIDENCE	11.00	POVERTY	POVERTY	33.44	37.87	38.44
PROVIDENCE	12.00	POVERTY	POVERTY	19.22	40.78	34.60
PROVIDENCE	13.00	POVERTY	POVERTY	30.25	34.27	38.75
PROVIDENCE	14.00	POVERTY	POVERTY	24.55	34.80	37.78
PROVIDENCE	18.00	POVERTY	LOW	34.59	40.14	40.91
PROVIDENCE	19.00	POVERTY	POVERTY	30.49	36.06	36.99
PROVIDENCE	25.00	POVERTY	LOW	30.57	39.80	40.64
PROVIDENCE	26.00	POVERTY	POVERTY	32.95	36.25	36.65
PROVIDENCE	37.00	POVERTY	LOW	45.93	33.47	42.57
CENTRAL FALLS	108.00	POVERTY	LOW	39.59	31.55	41.15
CENTRAL FALLS	109.00	POVERTY	LOW	44.30	27.54	40.47
CENTRAL FALLS	110.00	POVERTY	LOW	41.25	28.03	41.75
CENTRAL FALLS	111.00	POVERTY	LOW	43.46	31.19	40.03
PAWTUCKET	151.00	POVERTY	POVERTY	35.28	24.94	38.35
PAWTUCKET	152.00	POVERTY	POVERTY	37.42	30.07	36.50
PAWTUCKET	153.00	POVERTY	LOW	35.77	37.34	40.45
PAWTUCKET	154.00	POVERTY	LOW	41.50	30.00	41.37

TABLE 10.

1980 AND 1970 SOCIOECONOMIC STATUS (SES) COMPARISON
FOR CENSUS TRACTS IN RHODE ISLAND,
SORTED BY THE 1980 SES CLUSTERS

TOWNNAME	CENSUS TRACT	1980 SES CLUSTER	1970 SES GROUP	1980 FACTOR WEALTH	1980 FACTOR EDUCATION	1970 SES VALUE
PAWTUCKET	161	POVERTY	LOW	38.13	32.87	40.75
PAWTUCKET	164	POVERTY	LOW	39.66	30.84	40.63
WOONSOCKET	172	POVERTY	POVERTY	31.46	35.83	38.77
WOONSOCKET	176	POVERTY	LOW	32.78	35.56	40.45
WOONSOCKET	178	POVERTY	LOW	40.53	37.53	40.95
WOONSOCKET	179	POVERTY	LOW	41.75	35.04	41.27
WOONSOCKET	180	POVERTY	POVERTY	41.38	34.17	32.74
WOONSOCKET	181	POVERTY	LOW	38.33	34.39	43.29
WOONSOCKET	182	POVERTY	LOW	45.39	34.64	41.65
WOONSOCKET	183	POVERTY	POVERTY	40.29	34.37	39.81
WARREN	305	POVERTY	LOW	44.85	35.83	41.15
BRISTOL	307	POVERTY	LOW	44.90	29.19	42.57
NEWPORT	405	POVERTY	LOW	25.22	47.16	43.01

Figures

FIGURE 1.

PROFILE OF CLUSTER 8 (N=17)

"AVERAGE"

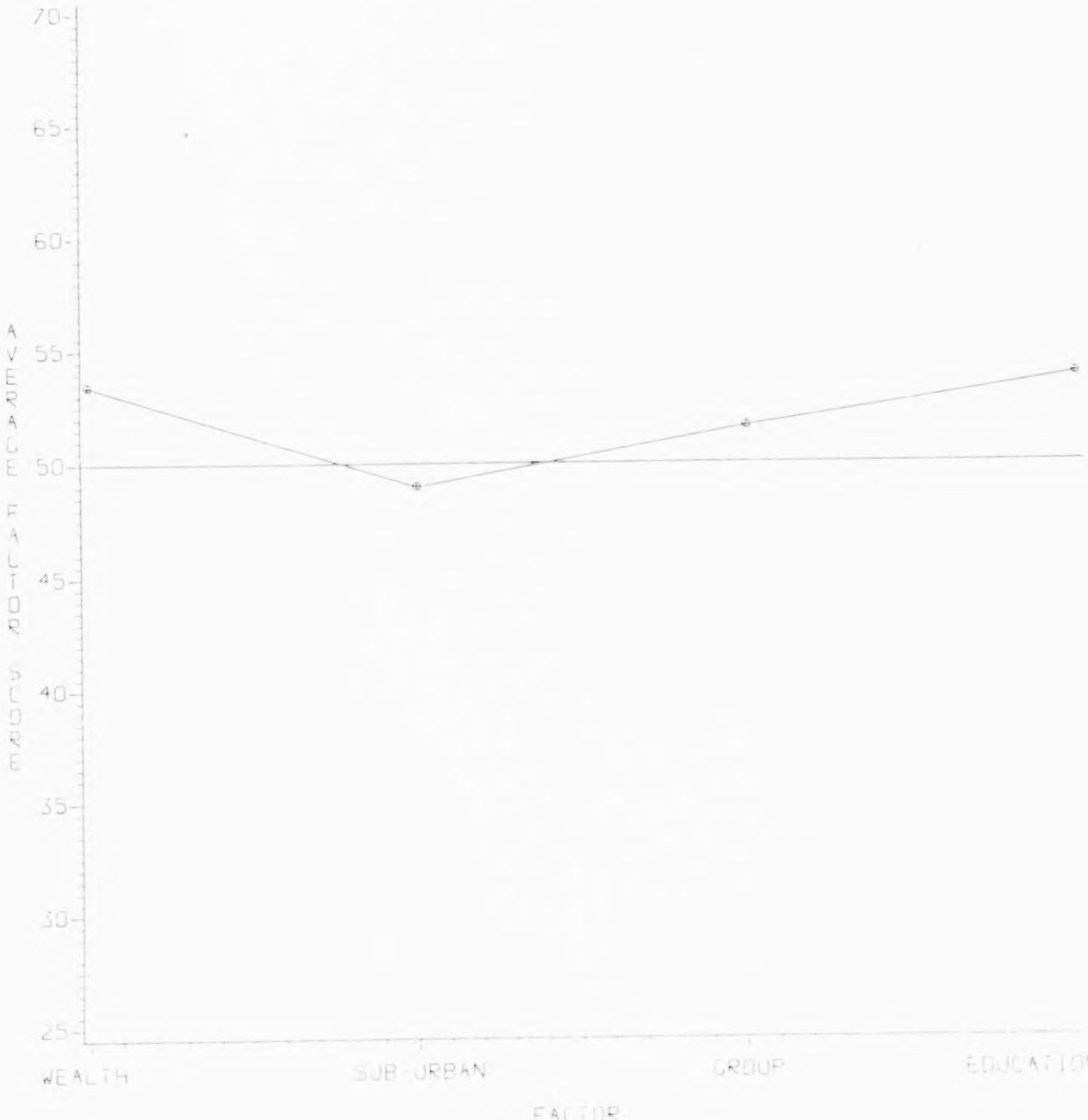

FIGURE 2.

CLUSTER 8 "AVERAGE"

FIGURE 3.

PROFILE OF CLUSTER 4 (N=17)

"SUB-URBAN"

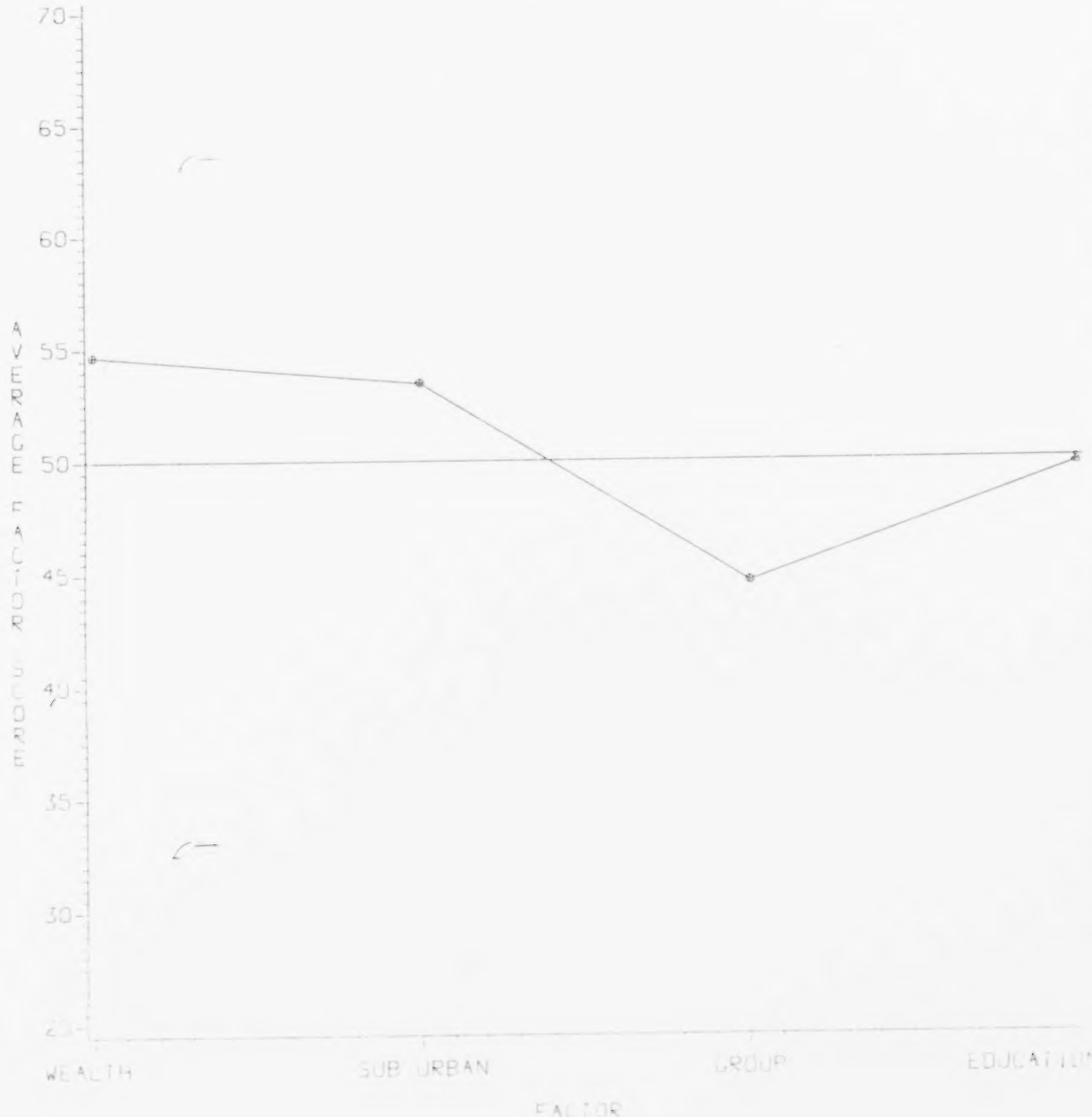

FIGURE 4.

CLUSTER 4 "SUB-URBAN"

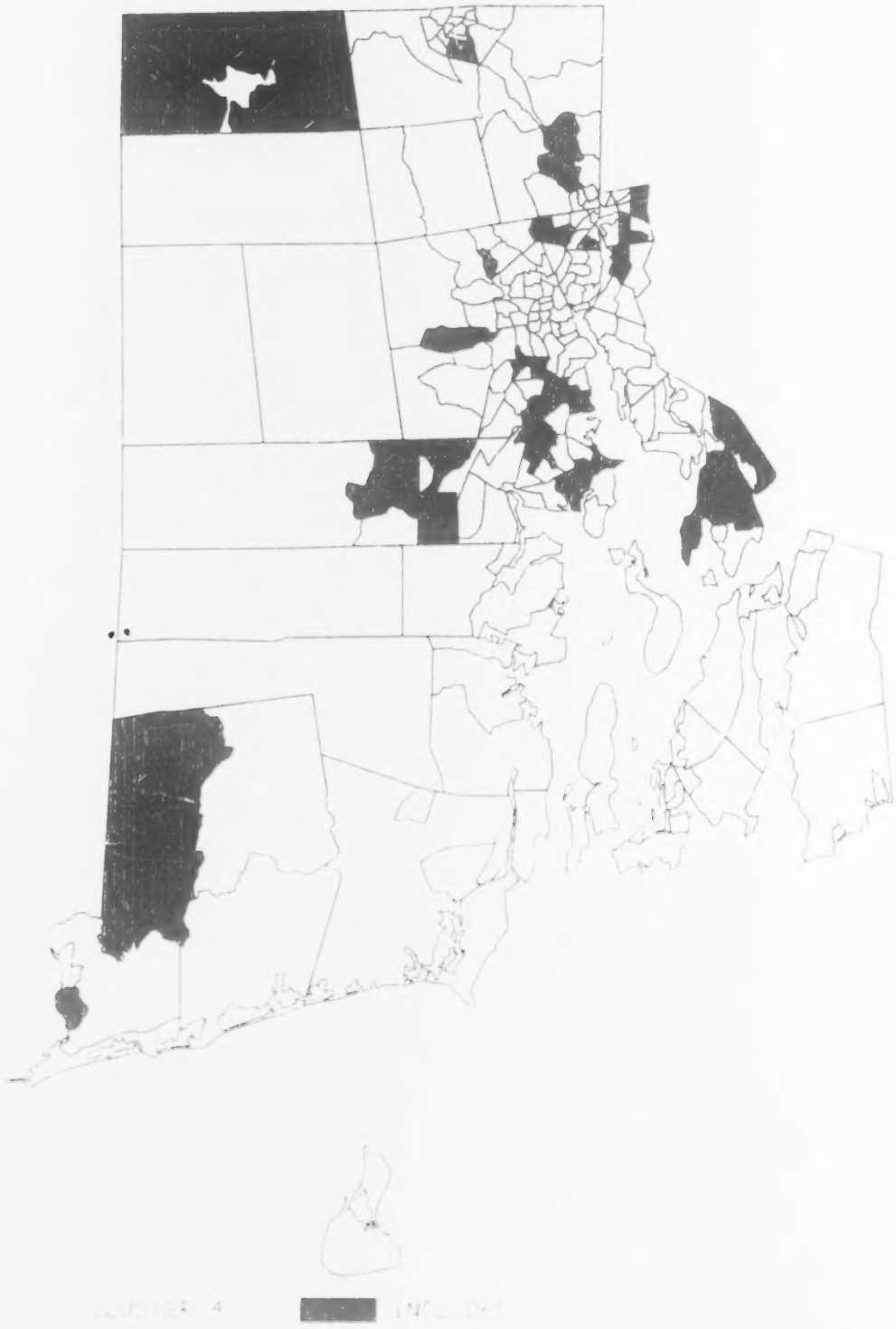

FIGURE 5.

PROFILE OF CLUSTER 5 (N=19)

"LOW EDUCATION"

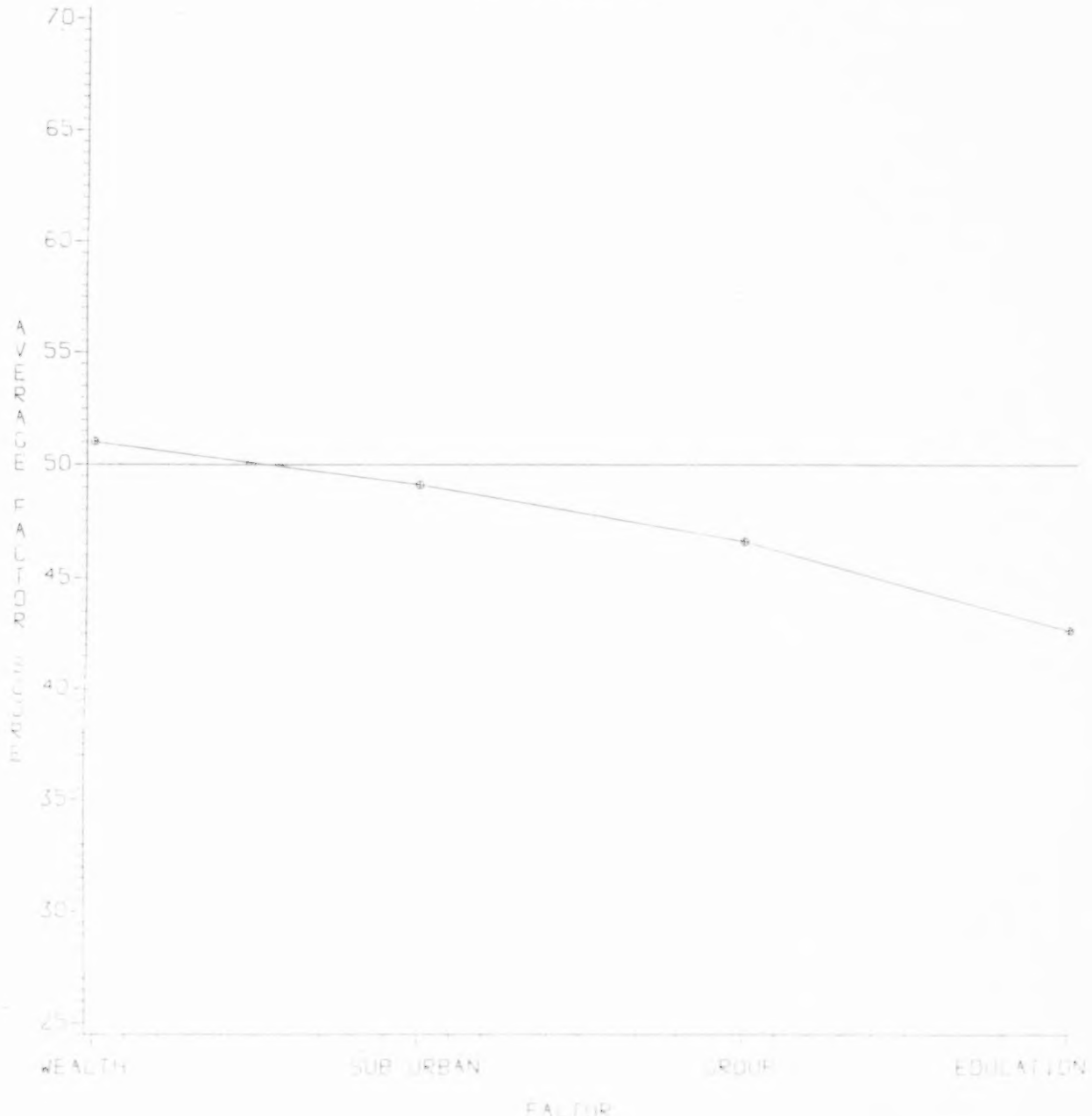

FIGURE 6.

CLUSTER 5 "LOW EDUCATION"

FIGURE 7.

PROFILE OF CLUSTER 9 (N=13)

'VERY LOW WEALTH, LOW SUB-URBAN, HIGH GROUP, VERY LOW EDUCATION'

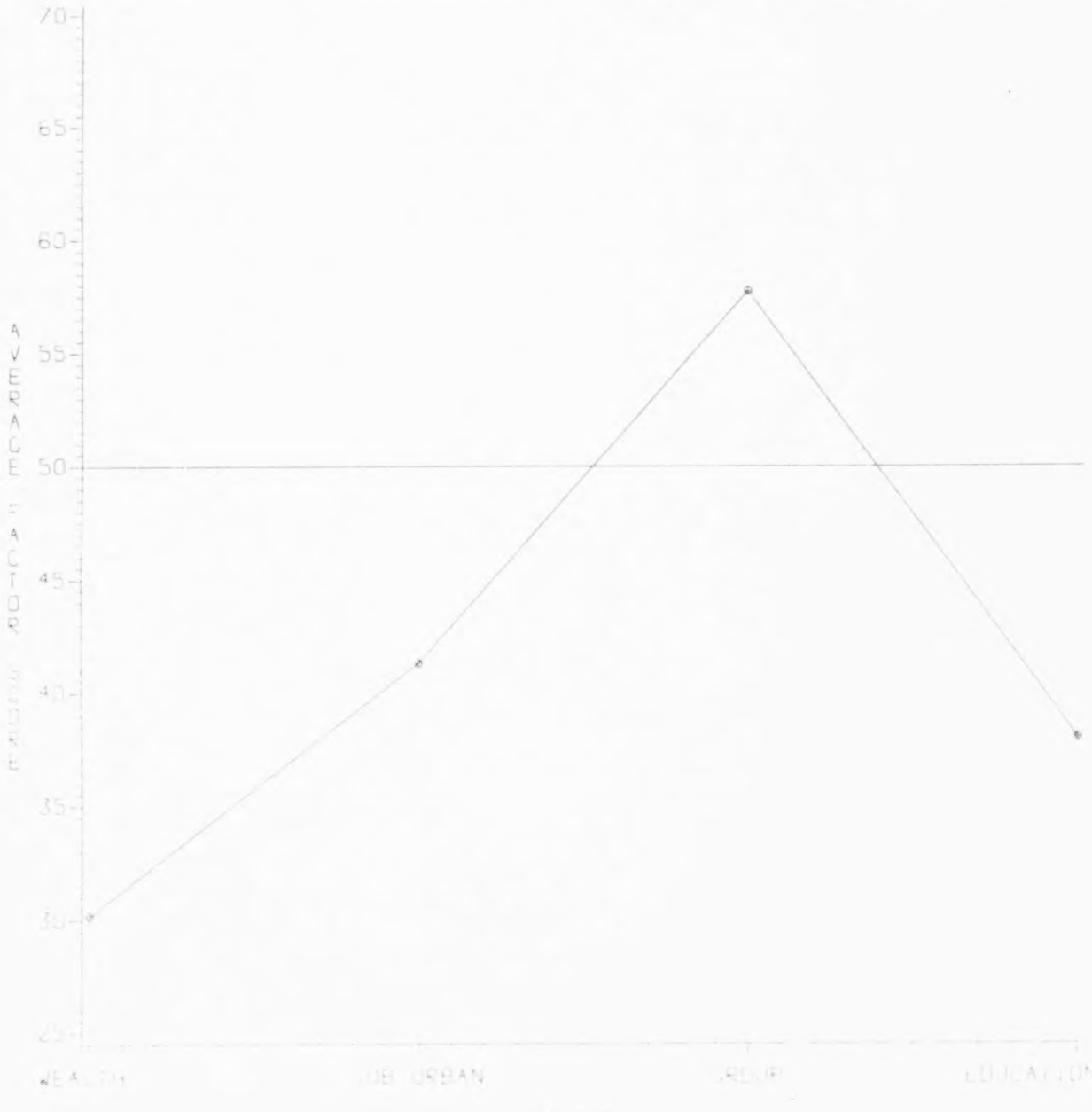

FIGURE 8

CLUSTER 9 "VERY LOW WEALTH, LOW SUB-URBAN, HIGH GROUP, VERY LOW EDUCATION"

FIGURE 9.

PROFILE OF CLUSTER 6 (N=16)

"LOW WEALTH, HIGH GROUP, VERY LOW EDUCATION"

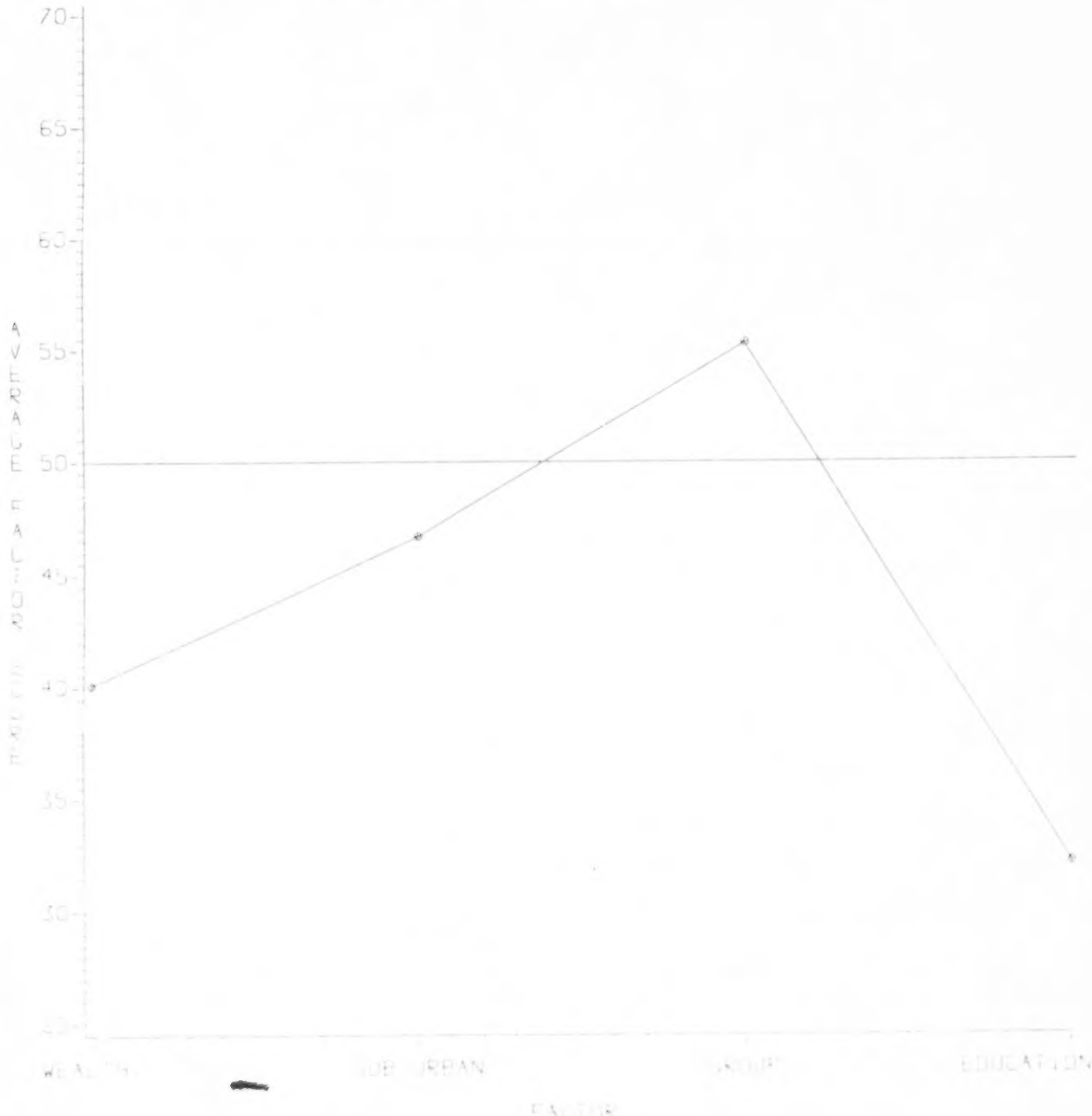

FIGURE 10

CLUSTER 6 "LOW WEALTH, HIGH GROUP, VERY LOW EDUCATION"

FIGURE 11.

PROFILE OF CLUSTER 7 (N=17)

"LOW WEALTH, LOW EDUCATION"

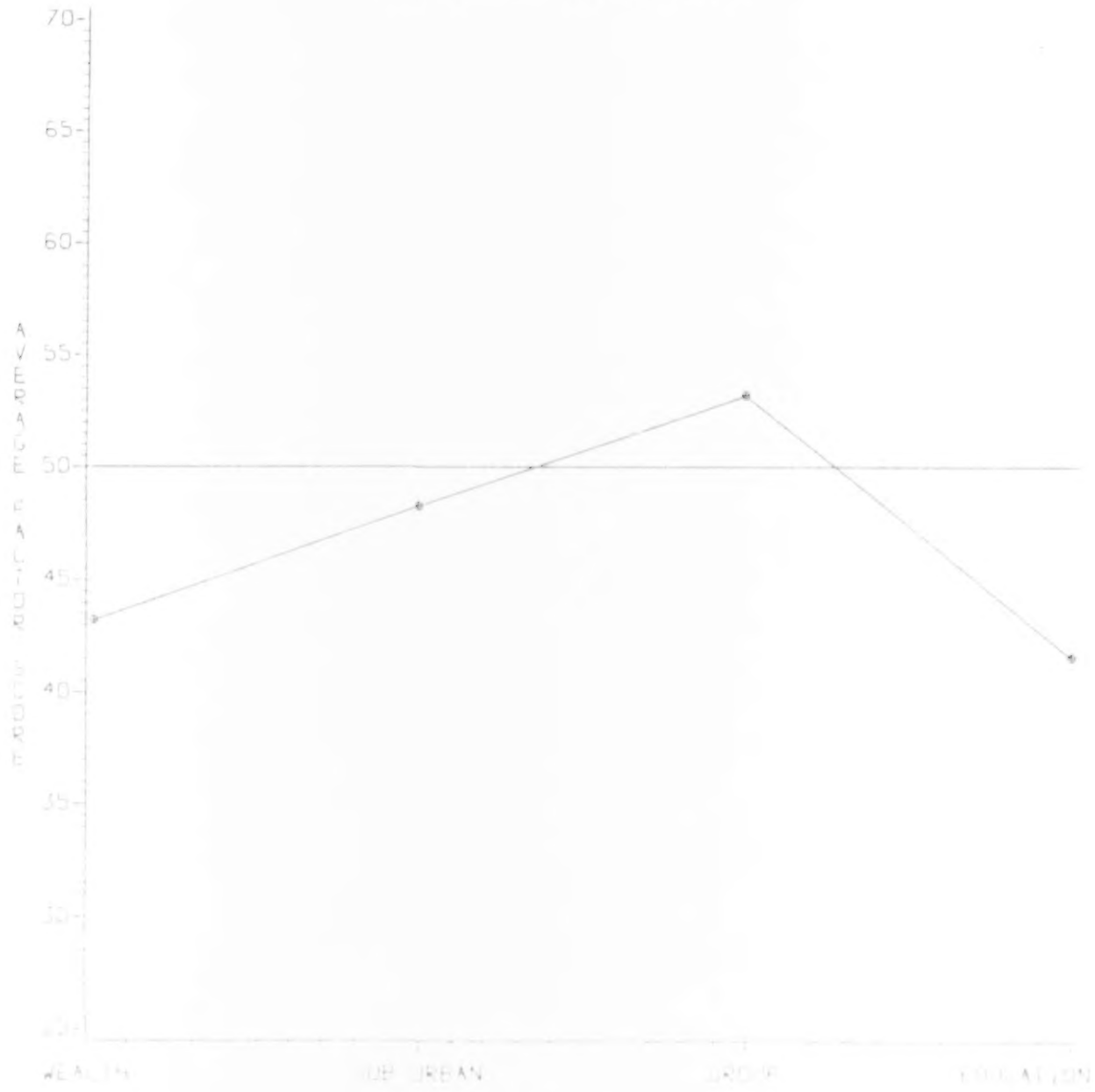

FIGURE 12.

CLUSTER 7 "LOW WEALTH, LOW EDUCATION"

FIGURE 13.

PROFILE OF CLUSTER 11 (N=12)

"HIGH GROUP, HIGH EDUCATION"

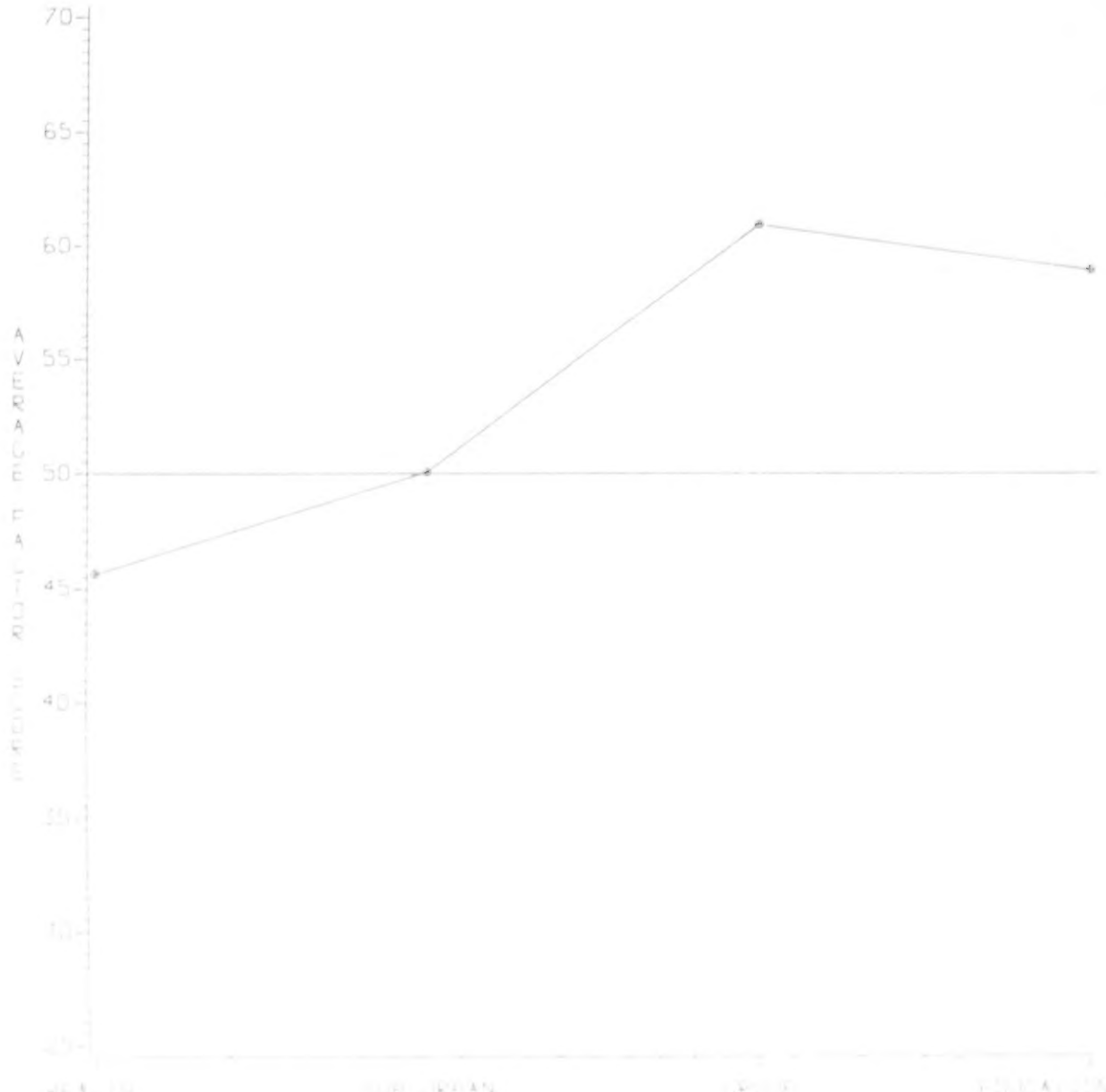

FIGURE 14.

CLUSTER 11 "HIGH GROUP, HIGH EDUCATION"

CLUSTER 11 INCLUDED

FIGURE 15

PROFILE OF CLUSTER 3 (N=25)

HIGH WEALTH, HIGH SUB URBAN, LOW GROUP

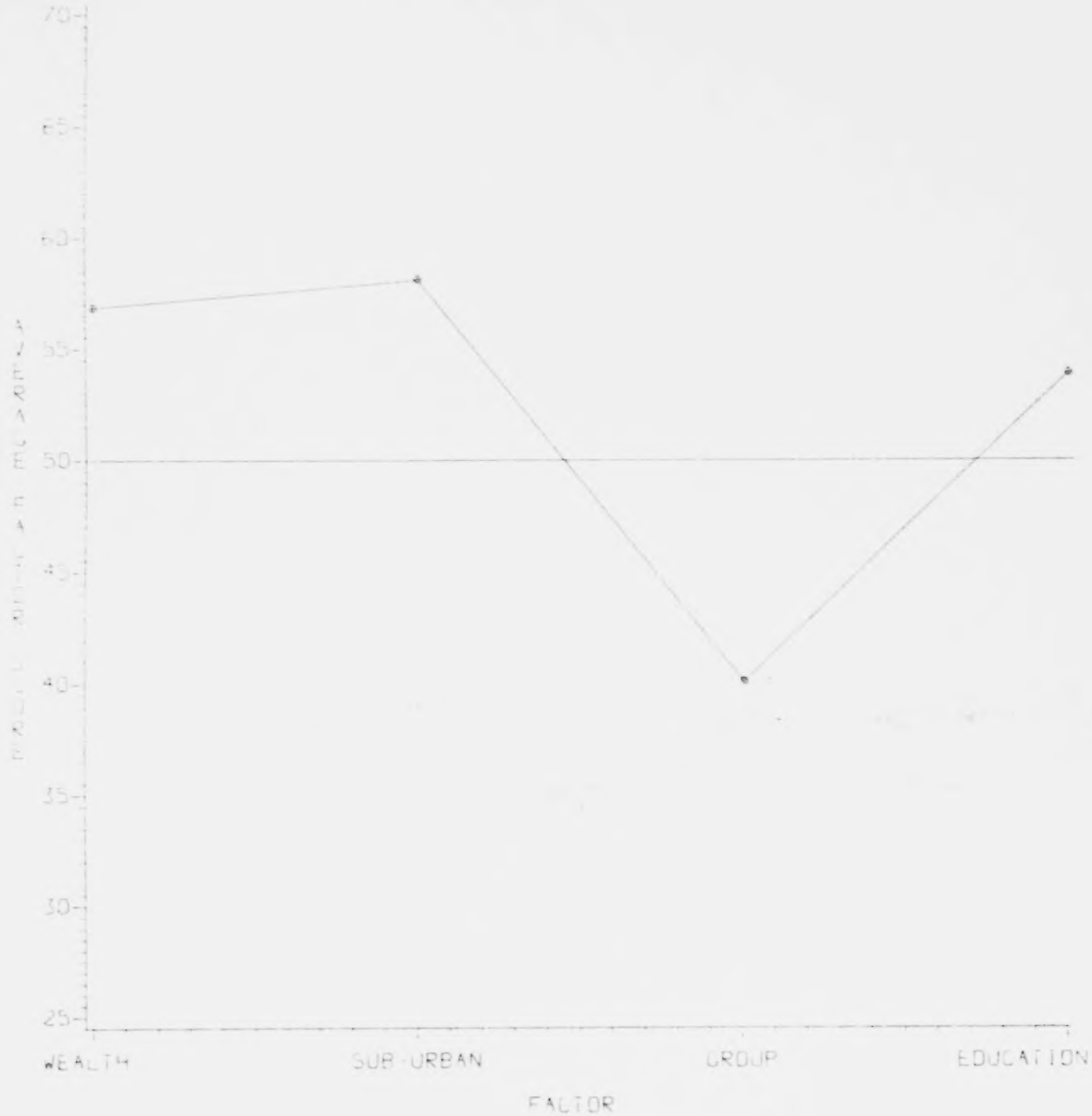

FIGURE 16.

CLUSTER 3 'HIGH WEALTH, HIGH SUB-URBAN, LOW GROUP'

CLUSTER 3 INCLUDED

FIGURE 17

PROFILE OF CLUSTER 1 (N=24)

HIGH WEALTH, LOW GROUP, HIGH EDUCATION

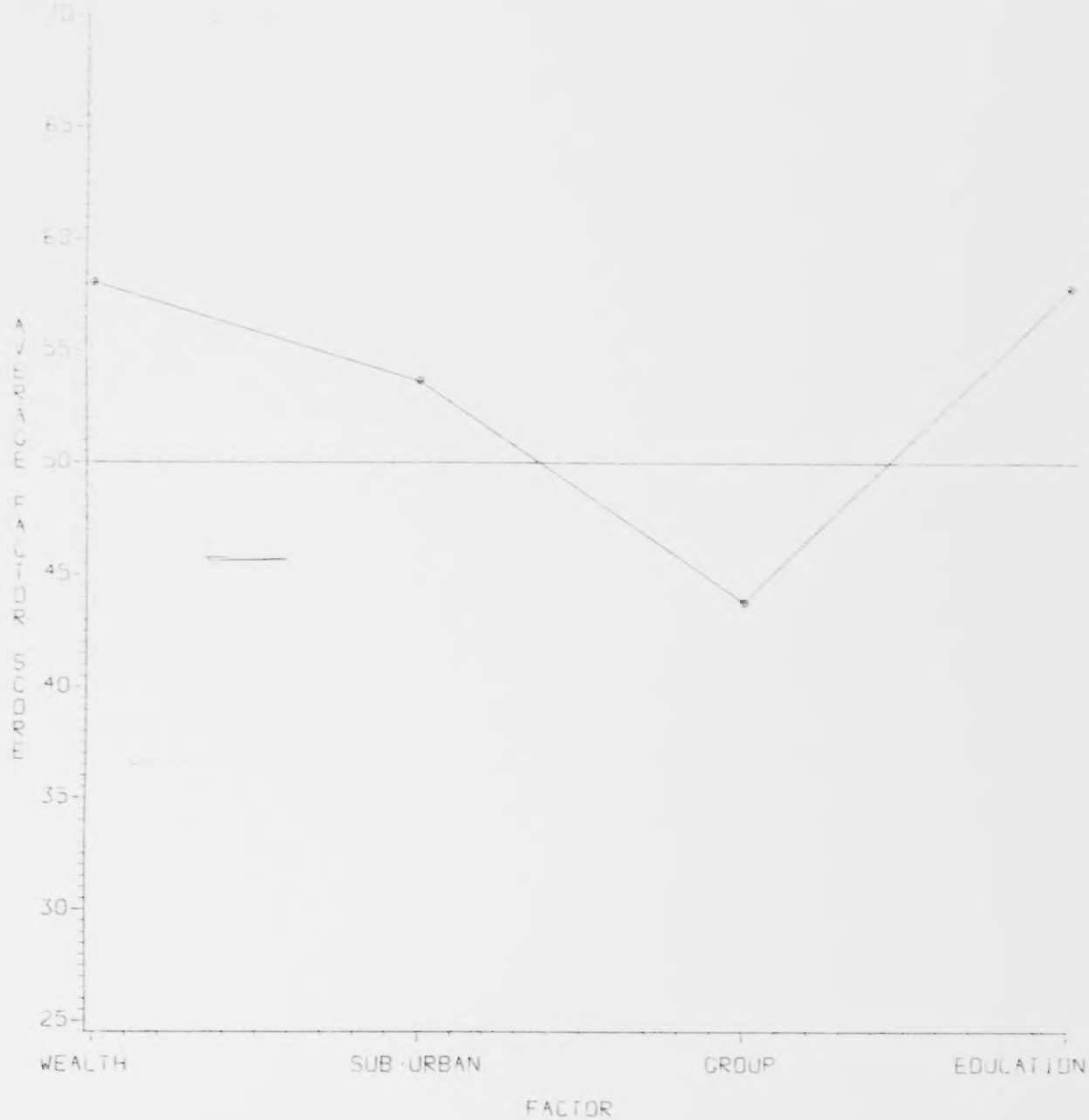

FIGURE 18

CLUSTER 1 "HIGH WEALTH, LOW GROUP, HIGH EDUCATION"

CLUSTER 1 INCLUDED

FIGURE 19

PROFILE OF CLUSTER 2 (N=17)

"HIGH WEALTH, VERY HIGH EDUCATION"

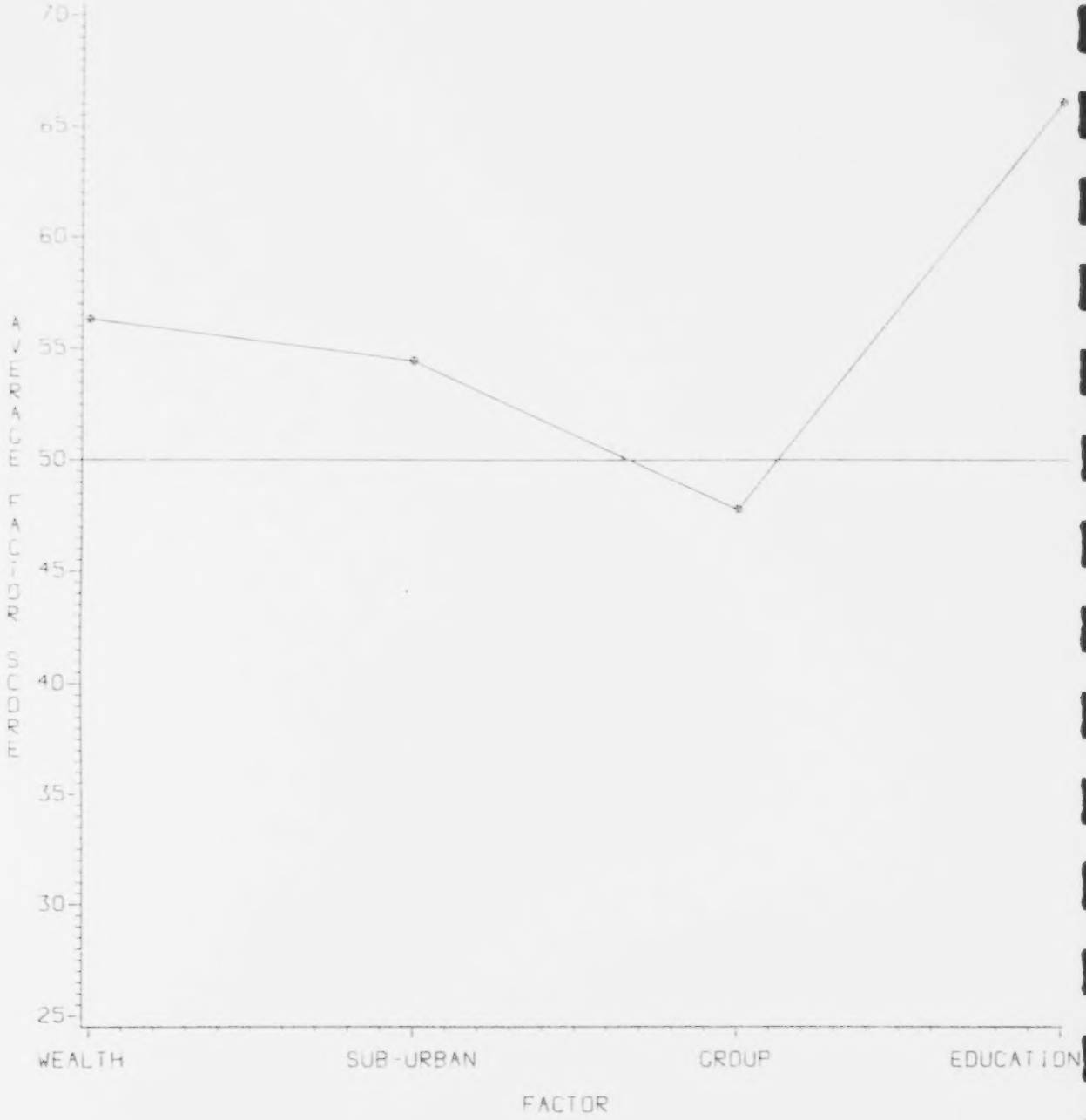

FIGURE 20

CLUSTER 2 "HIGH WEALTH, VERY HIGH EDUCATION"

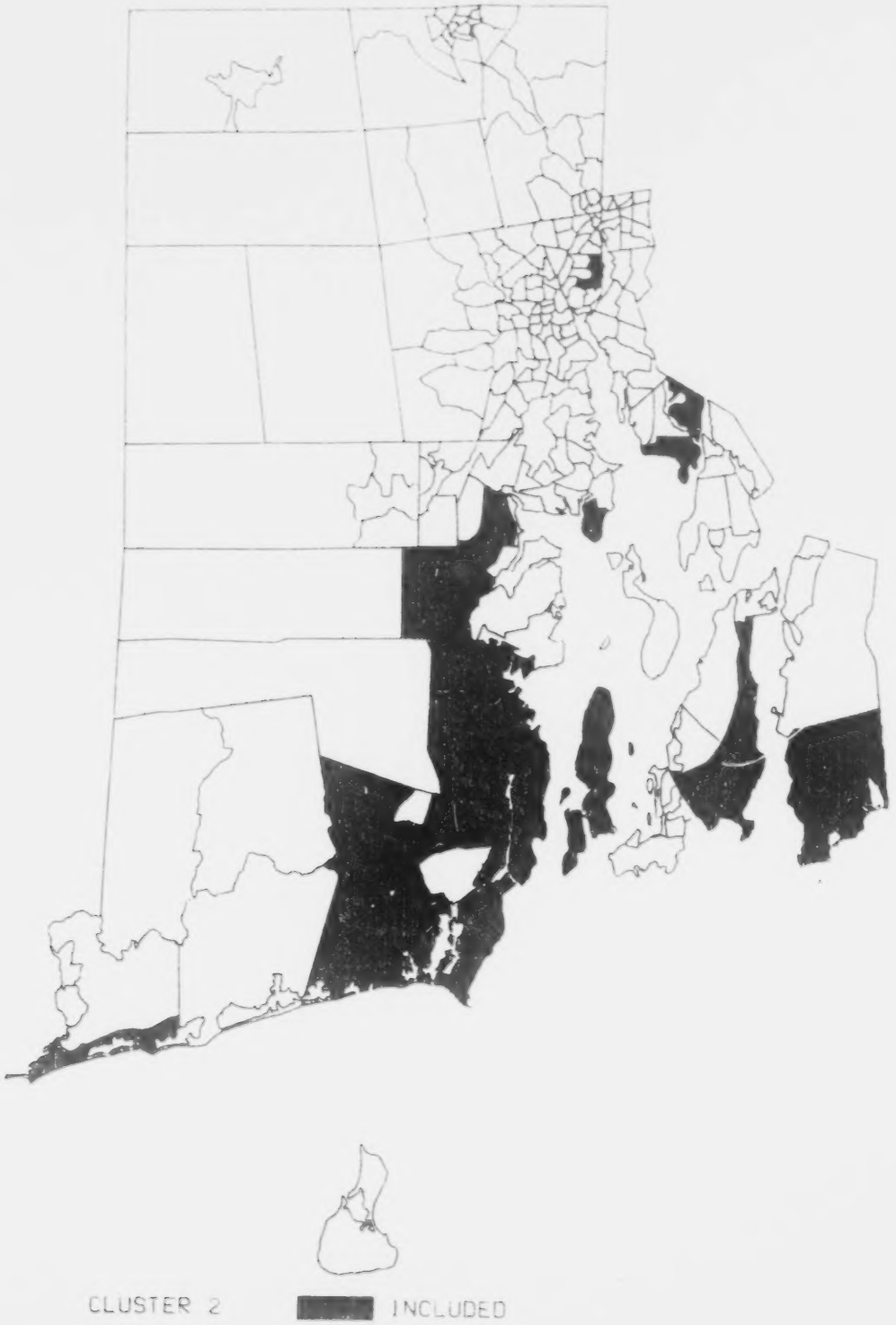

FIGURE 21

PROFILE OF CLUSTER 12 (N=5)

VERY LOW WEALTH, LOW SUB URBAN, HIGH GROUP, VERY LOW EDUCATION

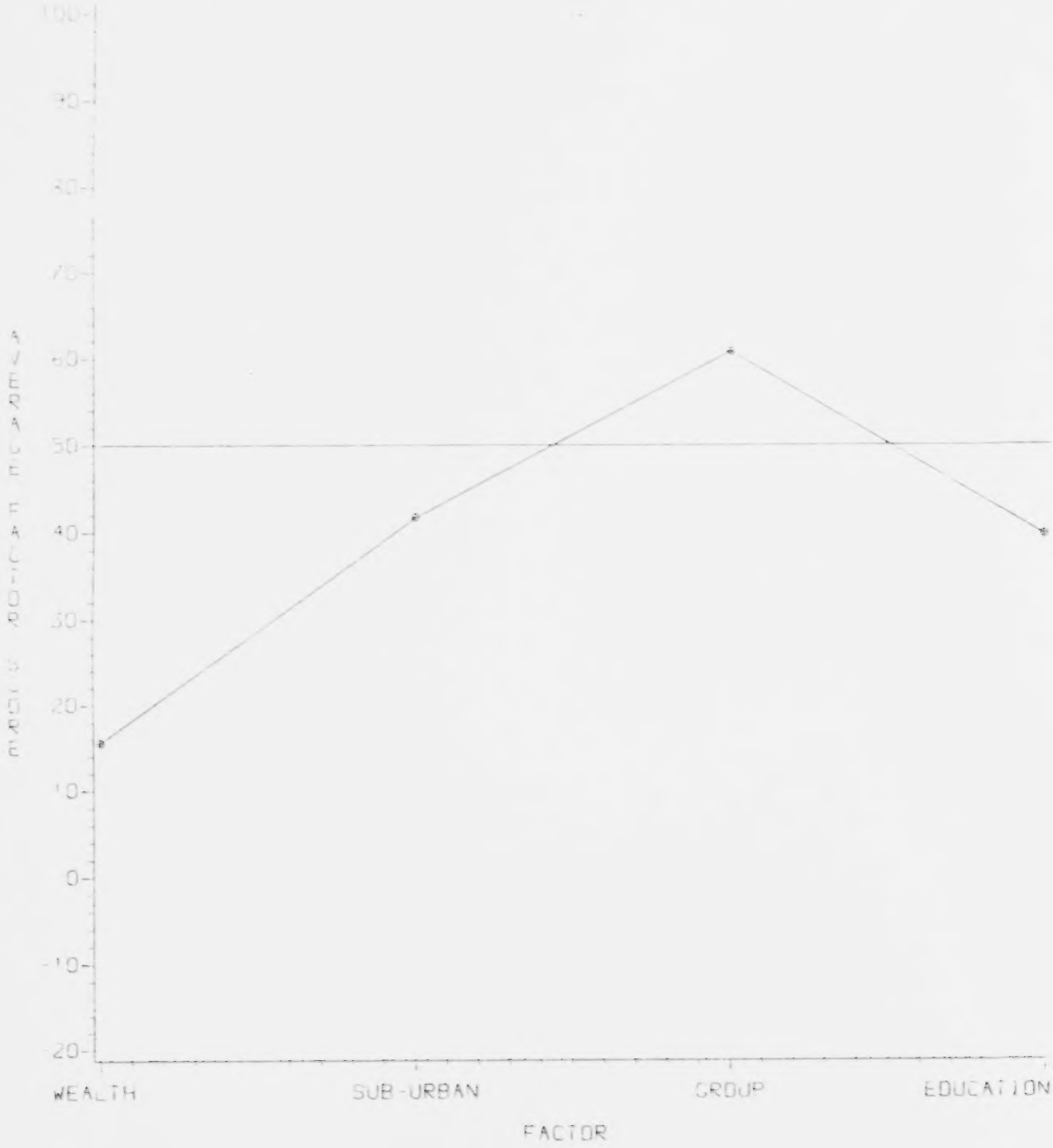

FIGURE 22.

CLUSTER 12 "VERY LOW WEALTH, LOW SUB-URBAN, HIGH GROUP, VERY LOW EDUCATION"

CLUSTER 12 INCLUDED

FIGURE 23

PROFILE OF CLUSTER 13 (N=3)

LOW WEALTH, EXTREMELY LOW SUB URBAN, VERY LOW EDUCATION

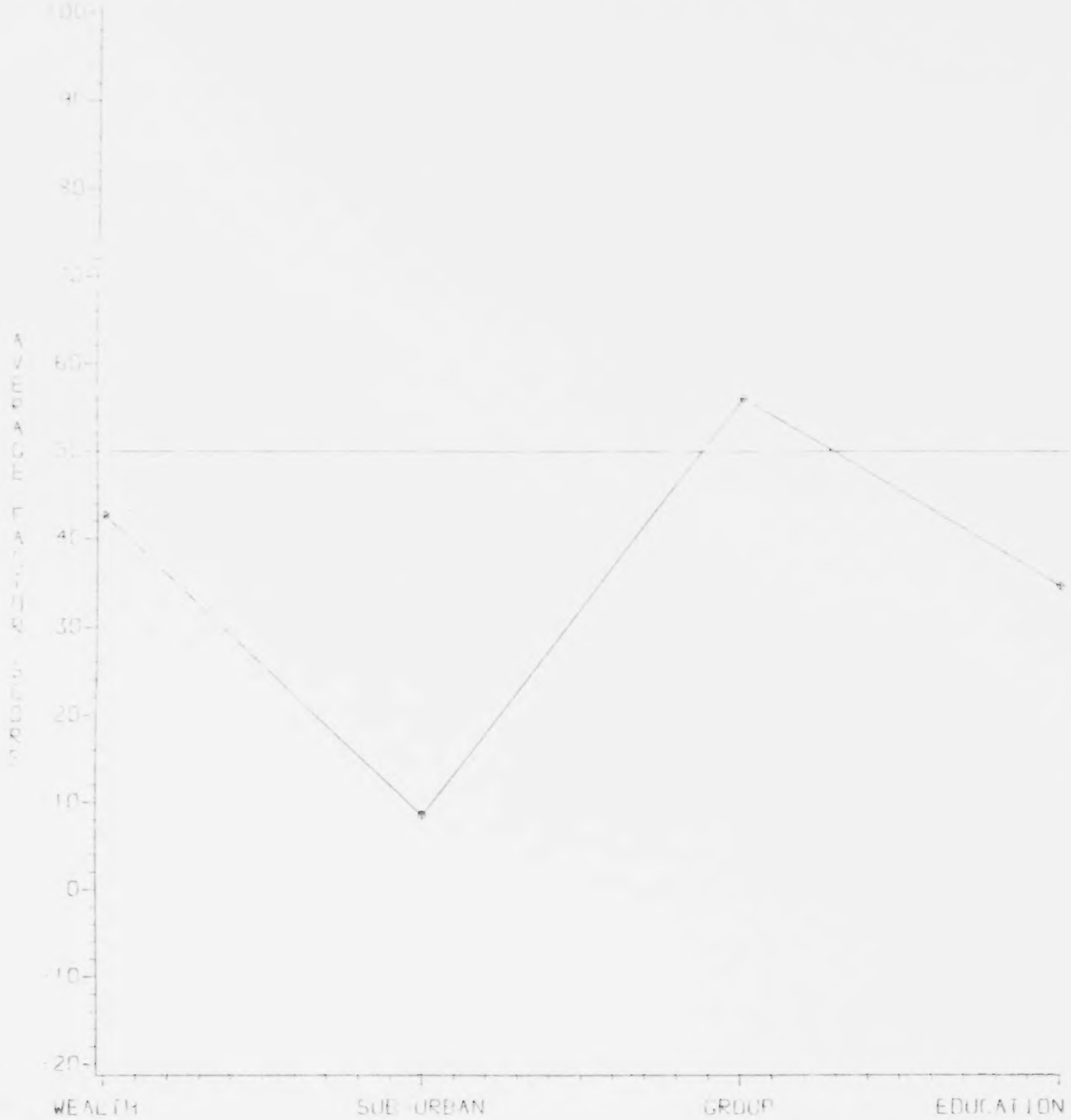

FIGURE 24.

CLUSTER 13 LOW WEALTH, EXTREMELY LOW SUBURBAN, VERY LOW EDUCATION

CLUSTER 13 INCLUDED

FIGURE 12

PROFILE OF CLUSTER 10 (N=4)

EXTREMELY HIGH GROUP, HIGH EDUCATION

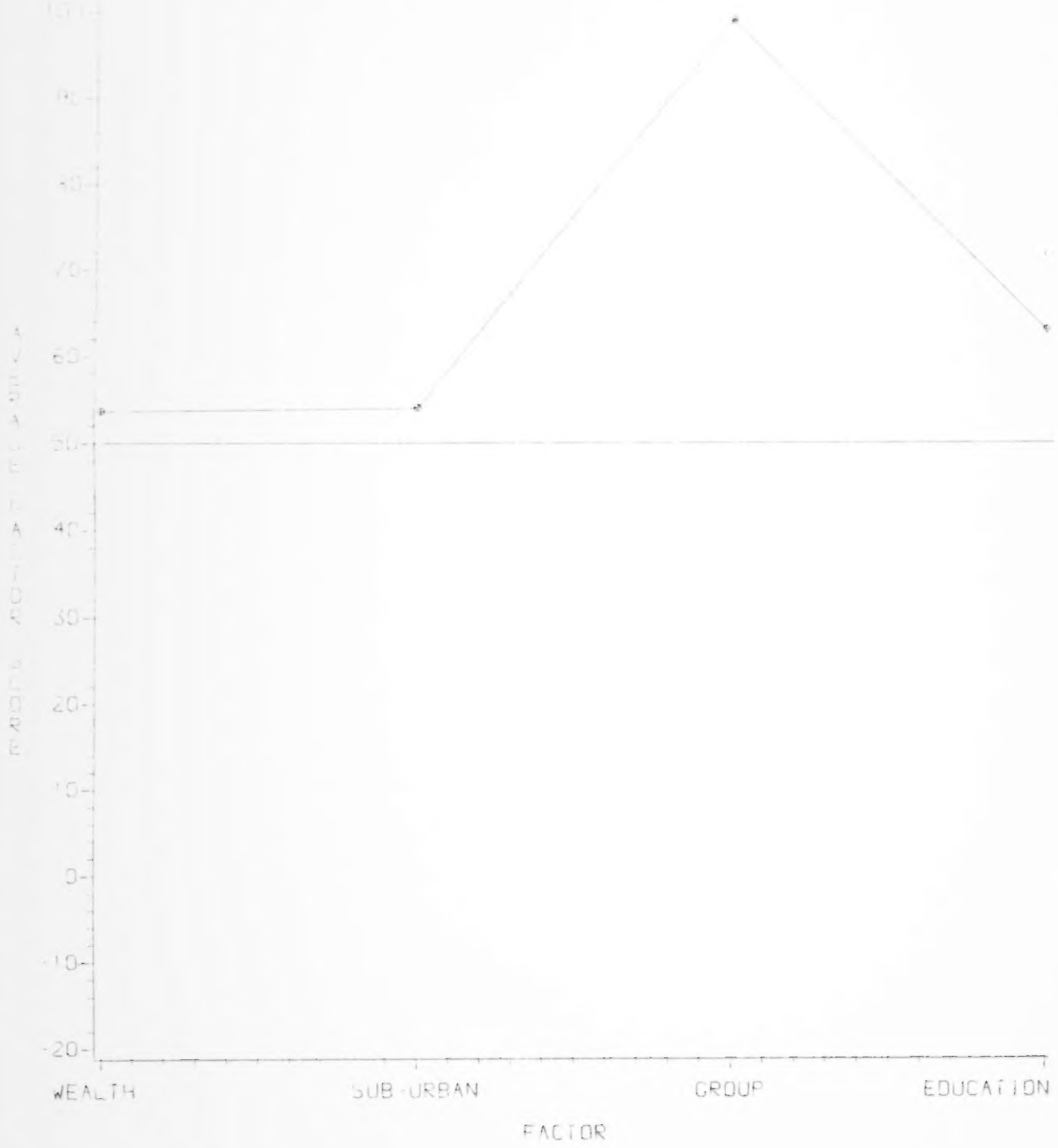

FIGURE 26

CLUSTER 10 EXTREMELY HIGH GROUP, HIGH EDUCATION

CLUSTER 10 INCLUDED

FIGURE 27

PROFILE OF CLUSTER 14 (N=2)

"HIGH WEALTH, EXTREMELY LOW SUB URBAN, EXTREMELY HIGH GROUP"

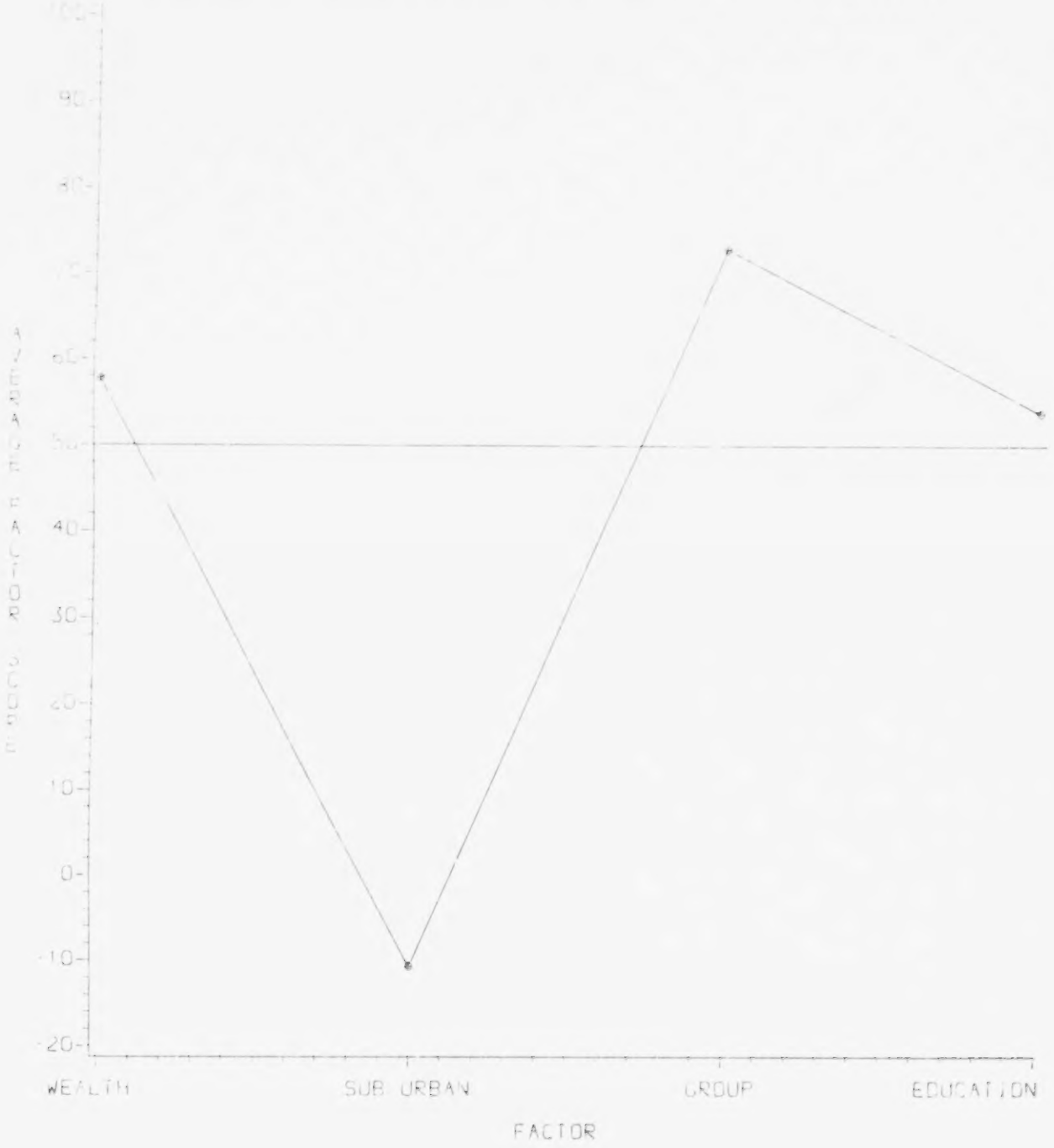

FIGURE 28

CLUSTER 14 - HIGH WEALTH, EXTREMELY LOW SUBURBAN, EXTREMELY HIGH [illegible]

CLUSTER 14 INCLUDED

FIGURE 29

CENSUS TRACTS IN POVERTY SOCIOECONOMIC STATUS CLUSTER

FIGURE 30:

CENSUS TRACTS IN LOW SOCIOECONOMIC STATUS CLUSTER

FIGURE 31.

CENSUS TRACTS IN MIDDLE SOCIOECONOMIC STATUS CLUSTER

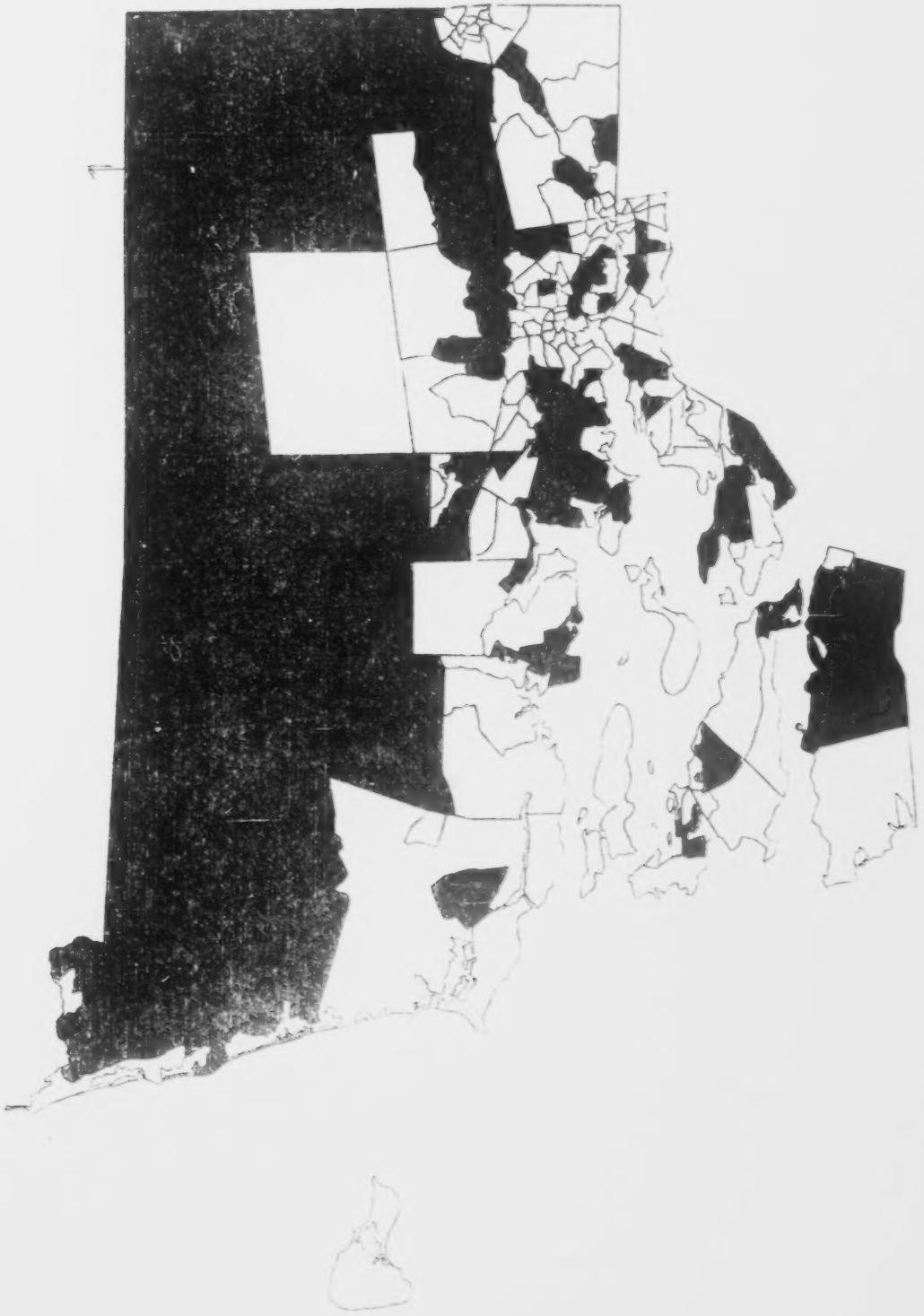

FIGURE 32.

CENSUS TRACTS IN HIGH SOCIOECONOMIC STATUS CLUSTER